



Joseph E. Kernan  
Governor

Lori F. Kaplan  
Commissioner

November 5, 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: Owens Corning Fabricating Solutions / 039-17785-00002

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 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, 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 and IC 13-15-6-1 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 of 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.dot 9/16/03

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

*We make Indiana a cleaner, healthier place to live.*



GOVERNOR

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November 5, 2003

Mr. Craig Ray  
Owens Corning Fabricating Solutions  
16710 Maple City Drive  
Goshen, Indiana 46526

Re: 039-17785-00002  
Significant Source Modification to:  
Part 70 permit No.:T039-6091-00002

Dear Mr. Ray:

Owens Corning Fabricating Solutions (formerly "Fabwel Composites, Inc.") was issued a Part 70 operating permit T039-6091-00002 on December 27, 2000 for a fiberglass panel manufacturing plant. An application to modify the source was received on May 29, 2003. Pursuant to 326 IAC 2-7-10.5, the following emission units are approved for modification at the source:

- (c) One (1) fiberglass panel manufacturing line, identified as the "C" line and Unit 003, coating a maximum of 4.5 molds per hour, consisting of two (2) air assisted airless gel coat application systems exhausting through five (5) stacks designated as CEX1-CEX5, and one (1) controlled mechanical atomized spray resin application system with covered cure, exhausting through five (5) stacks designated as CEX1-CEX5, with dry filters for overspray. (Constructed in 2000 and modified in 2003)
- (d) One (1) woodworking station for lines A, B, and C, identified as Unit 002, with a maximum raw material input rate of 265 pounds per hour, consisting of one (1) wide belt sander, one (1) table saw, one (1) chop saw, and one (1) panel saw, all controlled by one (1) baghouse, exhausting to stack S002. (Constructed in 1988)
- (e) One (1) standby woodworking equipment for lines A, B, and C, identified as Unit 004, with a maximum throughput rate of 265 pounds of raw material per hour, consisting of one (1) wide belt sander, controlled by one (1) portable baghouse, exhausting to stack S004. (Constructed in 1998 and 2000)
- (f) One (1) panel grinding/trimming station for lines A and B, identified as Unit 005, with a maximum raw material input rate of 1,411 lb/hr, consisting of one (1) CNC panel saw, two (2) hand saws, and four (4) hand grinders, controlled by one (1) bag house (CDC1), exhausting to stack S005. (Constructed in 1988 and 1998)
- (g) One (1) CNC saw for line C, identified as Unit 006, with a maximum throughput rate of 627 pounds of raw material per hour, controlled by one (1) dust collector (Dust Hog) and one (1) interior baghouse, exhausting to stack S006. (Constructed in 2000)
- (h) Two (2) panel grinding machines for line C, identified as Unit 007, each with a maximum raw material input rate of 627 pounds per hour, controlled by one (1) dust collector and one (1) interior baghouse, exhausting to stack S007. (Constructed in 2000)

- (i) One (1) vertical saw for Line C, identified as 008, with a maximum throughput rate of 627 pounds of raw materials per hour, controlled by one (1) existing dust collector (Dust Hog) and one (1) interior baghouse, and exhausting to stack S006. (Constructed in 2002)

The following construction conditions are applicable to the proposed project:

General Construction Conditions

1. 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 and 326 IAC 2-7-10.5(i), 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.

This significant source modification authorizes construction of the new emission units and modification of the existing units. Operating conditions shall be incorporated into the Part 70 operating permit as a significant permit modification in accordance with 326 IAC 2-7-10.5(l)(2) and 326 IAC 2-7-12. Operation is not approved until the significant permit modification has been issued.

Pursuant to Contract No. A305-0-00-36, IDEM, OAQ has assigned the processing of this application to Eastern Research Group, Inc., (ERG). Therefore, questions should be directed to Yu-Lien Chu, ERG, 1600 Perimeter Park Drive, Morrisville, North Carolina 27560, or call (919) 468-7871 to speak directly to Ms. Chu. Questions may also be directed to Duane Van Laningham at IDEM, OAQ, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, or call (800) 451-6027, and ask for Duane Van Laningham, or extension 3-6878, or dial (317) 233-6878.

Sincerely,

**Original signed by**  
Paul Dubenetzky, Chief  
Permits Branch  
Office of Air Quality

Attachments

ERG/YC

cc: File - Elkhart County  
Elkhart County Health Department  
Northern Regional Office  
Air Compliance Section Inspector - Greg Wingstrom  
Compliance Data Section - Karen Nowak

Administrative and Development -Sara Cloe  
Technical Support and Modeling - Michele Boner



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## PART 70 OPERATING PERMIT OFFICE OF AIR QUALITY

**Owens Corning Fabricating Solutions  
(formerly Fabwel Composites, Inc.)  
16710 Maple Drive  
Goshen, Indiana 46526**

(herein known as the Permittee) is hereby authorized to construct and operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this approval.

This approval 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 2-7 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.: T039-6091-00002	
Issued by: Janet McCabe, Assistant Commissioner Office of Air Quality	Issuance Date: December 27, 2000  Expiration Date: December 27, 2005
First Significant Source Modification No.: 039-17785-00002	
Issued by: <b>Original signed by</b> Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: <b>November 5, 2003</b>

## SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

### A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

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The Permittee owns and operates a fiberglass panel manufacturing operation.

Responsible Official:	Plant Manager
Source Address:	16710 Maple Drive, Goshen, Indiana 46526
Mailing Address:	16710 Maple Drive, Goshen, Indiana 46526
Phone Number:	(574) 534-3447
SIC Code:	3089
County Location:	Elkhart
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program Major Source under PSD Rules; Major Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

### A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

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This stationary source consists of the following emission units and pollution control devices:

- (a) One (1) fiberglass panel manufacturing line, identified as the "A" line and Unit 001, consisting of three (3) fiberglass panel reciprocators, each equipped with one (1) optimized spray or equivalent gel coat application system and one (1) non-atomized or equivalent resin application system, with dry filters for overspray and exhausting at eleven (11) stacks, identified as SV-25 through SV-35. Only two (2) of the three (3) reciprocators may be operated simultaneously, with the third reciprocator used as a back-up. (Constructed in 1987)
- (b) One (1) fiberglass panel manufacturing line, identified as the "B" line and Unit 001, consisting of two (2) fiberglass panel reciprocators, each equipped with one (1) optimized spray or equivalent gel coat application system and one (1) non-atomized or equivalent resin application system, with dry filters for overspray and exhausting to twelve (12) stacks designated as SV-36 through SV-47. (Constructed in 1998)
- (c) One (1) fiberglass panel manufacturing line, identified as the "C" line and Unit 003, consisting of two (2) optimized spray or equivalent gel coat application systems, one (1) non-atomized or equivalent resin application system with covered cure, and one (1) Vacuum Infusion Process (VIP) resin application system, exhausting through five (5) stacks designated as CEX1-CEX5, with dry filters for overspray. (Constructed in 2000 and modified in 2003)
- (d) One (1) Lauan woodworking station for lines A, B, and C, identified as Unit 002, with a maximum raw material input rate of 265 pounds per hour, consisting of one (1) wide belt sander, one (1) table saw, one (1) chop saw, and one (1) panel saw, all controlled by one (1) Honeyville baghouse, exhausting to stack S002. (Constructed in 1988)

- (e) One (1) standby woodworking shop equipment for lines A, B, and C, identified as Unit 004, with a maximum throughput rate of 265 pounds of raw material per hour, consisting of one (1) wide belt sander, controlled by one (1) Torit cyclone/dust collector exhausting to stack S004. (Constructed in 1998 and 2000)
- (f) One (1) panel grinding/trimming station for lines A and B, identified as Unit 005, with a maximum raw material input rate of 1,411 lb/hr, consisting of one (1) CNC panel saw, two (2) hand saws, and four (4) hand grinders, controlled by one (1) bag house (CDC1), exhausting to stack S005. (Constructed in 1988 and 1998)
- (g) One (1) panel CNC saw for line C, identified as Unit 006, with a maximum throughput rate of 627 pounds of raw material per hour, controlled by one (1) UAS dust collector (Dust Hog) and one (1) UAS interior baghouse, exhausting to stack S006. (Constructed in 2000)
- (h) Two (2) panel grinding machines for line C, identified as Unit 007, each with a maximum raw material input rate of 627 pounds per hour, controlled by one (1) RUWAC portable drum dust collector, one (1) UAS dust collector (Dust Hog), and one (1) UAS interior baghouse, exhausting to stack S006. (Constructed in 2000)
- (i) One (1) vertical saw for Line C, identified as 008, with a maximum throughput rate of 627 pounds of raw materials per hour, controlled by one (1) UAS dust collector (Dust Hog) and one (1) UAS interior baghouse, and exhausting to stack S006. (Constructed in 2002)

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

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

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour.
- (b) Solvent recycling systems with batch capacity less than or equal to 100 gallons
- (c) Trimmers that do not produce fugitive emissions and that are equipped with a dust collection or trim material recovery device such as a bag filter or cyclone.
- (d) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower .
- (e) Other activities or categories not previously identified:

Insignificant Thresholds:

Lead (Pb) = 0.6 ton/year or 3.29 lbs/day	Carbon Monoxide (CO) = 25 lbs/day
Sulfur Dioxides (SO <sub>2</sub> ) = 5 lbs/hour or 25 lbs/day	Particulate Matter (PM) = 5 lbs/hour or 25 lbs/day
Nitrogen Oxides (NO <sub>X</sub> ) = 5 lbs/hour or 25 lbs/day	Volatile Organic compounds (VOC) = 3 lbs/hr or 15 lbs/day

- (1) One (1) arc welder, using type E6013 electrode, with a maximum electrode consumption rate of 0.094 pounds per hour.
- (2) Two (2) styrene monomer storage tanks. each with an annual throughput of 85537 gallons per year, identified as 009a and 009b.
- (3) Two (2) styrene resin storage tanks, each with a capacity of 6,000 gallons.

- (4) Four (4) natural gas air make-up units, designated as AM012-AM015, with a maximum heat input capacity of 0.044 million British thermal units per hour (MMBtu/hr) each.
- (5) One ( 1 ) natural gas air make-up unit, designated as AM016 , with a maximum heat input capacity of 0.012 MMBtu/hr each.
- (6) Eight (8) infrared tube heaters each rated a 0.120 MMBtu/hr, identified as 017- 024 and three (3) infrared tube heaters each rated at 0.075 MMBtu/hr, identified as 025-027.
- (7) One (1) office furnace rated at 0.125 MMBtu/hr identified as 028.
- (8) One (1) air make-up unit rated at 0.880 MMBtu/hr identified as AM029, three (3) air make-up units each rated at 3.745 MMBtu/hr identified as AM030-032, and one (1) air make-up unit rated at 3.075 MMBtu/hr identified as AM033.
- (9) Fourteen (14) Radiant Tube type heaters rated at 0.1 million (MM) btu/hr each, two (2) Unit Heaters rated at 0.69 million MMBtu/hr each, six (6) air make-up units rated at 3.008 MMBtu/hr each.

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

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This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

- (a) It is a major source, as defined in 326 IAC 2-7-1(22);
- (b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 -Applicability).

## SECTION D.1 FACILITY OPERATION CONDITIONS

### Facility Description [326 IAC 2-7-5(15)]

- (a) One (1) fiberglass panel manufacturing line, identified as the "A" line and Unit 001, consisting of three (3) fiberglass panel reciprocators, each equipped with one (1) optimized spray or equivalent gel coat application system and one (1) non-atomized or equivalent resin application system, with dry filters for overspray and exhausting at eleven (11) stacks, identified as SV-25 through SV-35. Only two (2) of the three (3) reciprocators may be operated simultaneously, with the third reciprocator used as a back-up. (Constructed in 1987)
- (b) One (1) fiberglass panel manufacturing line, identified as the "B" line and Unit 001, consisting of two (2) fiberglass panel reciprocators, each equipped with one (1) optimized spray or equivalent gel coat application system and one (1) non-atomized or equivalent resin application system, with dry filters for overspray and exhausting to twelve (12) stacks designated as SV-36 through SV-47. (Constructed in 1998)
- (c) One (1) fiberglass panel manufacturing line, identified as the "C" line and Unit 003, consisting of two (2) optimized spray or equivalent gel coat application systems, one (1) non-atomized or equivalent resin application system with covered cure, and one (1) Vacuum Infusion Process (VIP) resin application system, exhausting through five (5) stacks designated as CEX1-CEX5, with dry filters for overspray. (Constructed in 2000 and modified in 2003)

(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 2-7-5(1)]

#### D.1.1 General Reduction Requirements for New Facilities [326 IAC 8-1-6]

- (a) Pursuant to CP No. 039-4937-00002, the BACT for the fiberglass panel manufacturing line, identified as line "A", is use of an air assisted application system for the gel coat line, and use of an airless application or equivalent system for the resin/chop line, with no add-on control devices.
- (b) Pursuant to CP No.039-9288-00002, issued on August 6, 1998, the fiberglass panel manufacturing line, identified as line "B", is subject to the requirements of 326 IAC 8-1-6, which requires that the Best Available Control Technology (BACT) be used to control VOC emissions. BACT for this fiberglass panel manufacturing line, identified as line "B" shall be satisfied by the requirements of 326 IAC 2-4.1-1 (New Source Toxics Control).
- (c) Pursuant to SSM No. 039-12284-00002, issued on October 13, 2000, the fiberglass panel manufacturing line, identified as line "C", is subject to the requirements of 326 IAC 8-1-6, which requires that the Best Available Control Technology (BACT) be used to control VOC emissions. BACT for this fiberglass panel manufacturing line, identified as line "C" shall be satisfied by the MACT determination of 326 IAC 2-4.1-1 (New Source Toxics Control).

#### D.1.2 New Source Toxics Control [326 IAC 2-4.1-1] [326 IAC 8-1-6]

- (a) Pursuant to the MACT determination under 326 IAC 4.1-1 and CP No. 039-9288-00002, issued on August 6, 1998, the operating conditions for the fiberglass panel manufacturing line, identified as the "B" line, shall be the following:
  - (1) Use of resins and gel coats shall be limited such that the potential to emit (PTE) volatile organic HAP from resins and gel coats from lines "A" and "B" shall be limited to less than 249 tons per twelve (12) consecutive month period with

compliance determined at the end of each month, such that the requirements of 326 IAC 2-2 (PSD Rules) do not apply. The VOC usage limit for line "B" is required as a component of the MACT determination and compliance with this limit shall be determined based upon the following criteria:

- (A) Monthly usage by weight, monomer content, method of application, and other emission reduction techniques for each gel coat and resin shall be recorded. Volatile organic HAP emissions shall be calculated by multiplying the usage of each gel coat and resin by the emission factor that is appropriate for the monomer content, method of application, and other emission reduction techniques for each gel coat and resin, and summing the emissions for all gel coats and resins. Emission factors shall be obtained from the reference approved by IDEM, OAQ.
  - (B) Until such time that new emissions information is made available by U.S. EPA in its AP-42 document or other U.S. EPA-approved form, emission factors shall be taken from the following reference approved by IDEM, OAQ: "Unified Emission Factors for Open Molding of Composites, July 23, 2001". The emission factors used for monomers that is styrene shall not exceed 32.3% styrene emitted per weight of gel coat applied and 17.7% styrene emitted per weight of resin applied. For the purposes of these emission calculations, monomer in resins and gel coats that is not styrene or methyl methacrylate shall be considered as styrene on an equivalent weight basis.
- (2) Resins and gel coats used, including filled resins and tooling resins and gel coats, shall be limited to maximum monomer contents of thirty six percent (36%) by weight for resins and thirty five percent (35%) by weight for gel coats or their equivalent on an emissions mass basis. Monomer contents shall be calculated on a neat basis, i.e., excluding any filler. Compliance with these monomer content limits shall be demonstrated on a monthly basis.
  - (3) Overhead mechanized spray reciprocators shall be used to apply all gel coats and resins, which minimizes overspray off the mold through proper placement of spray gun stops and spray gun pressure calibration according to guidelines published by IDEM, OAQ. The spray gun type shall be high volume low pressure (HVLP) or equivalent. HVLP spray is the technology used to apply material to substrate by means of application equipment that operates between one-tenth (0.1) and ten (10) pounds per square inch gauge (psig) air pressure measured dynamically at the center of the air cap and at the air horns of the spray system.
  - (4) Minimizing the period of roll-out and placement of wood reinforcing panels immediately after the last resin application.
- (b) Pursuant to the MACT determination under 326 IAC 4.1-1 and 326 IAC 8-1-6 (BACT), the operating conditions for the fiberglass panel manufacturing line, identified as the "C" line, shall be the following:
    - (1) Use of resins and gel coats that contain styrene shall be limited such that the potential to emit (PTE) volatile organic HAP from use of such resins and gel coats only shall be less than 129.6 tons per twelve (12) consecutive month period with compliance determined at the end of each month. Compliance with this limit shall be determined based upon the following criteria:

- (A) Monthly usage by weight, content of monomer that is HAP, method of application, and other emission reduction techniques used for each gel coat and resin shall be recorded. Volatile organic HAP emissions shall be calculated by multiplying the usage of each gel coat and resin by the emission factor that is appropriate for the HAP monomer content, method of application, and other emission reduction techniques used for each gel coat and resin, and summing the emissions for all gel coats and resins. Emission factors shall be obtained from the reference approved by IDEM, OAQ.
- (B) The emission factors approved for use by IDEM, OAQ for open molding processes shall be taken from the following reference: "Unified Emission Factors for Open Molding of Composites," Composites Fabricators Association, July 23, 2001. The emission factor for the VIP application system (closed molding) is 1% by weight of the HAP monomer content, which is provided by the American Composites Manufacturers Association (ACMA). For the purposes of these emission calculations, HAP monomer in resins and gel coats that is not styrene or methyl methacrylate shall be considered as styrene on an equivalent weight basis.
- (C) The HAP monomer content of resins and gel coats used shall be limited to the following or their equivalent on an emissions mass basis:

Type of Gel Coat or Resin	HAP Monomer Content, % by weight
Open Molding Production 1 Gel Coat	36
Open Molding Production Resin	35
VIP Production Resin	40

<sup>1</sup>Production refers to the manufacture of parts.

HAP monomer contents shall be calculated on a neat basis, which means excluding any filler. Compliance with these HAP monomer content limits shall be demonstrated on a monthly basis.

- (D) Non-atomized spray or equivalent application technology shall be used to apply unfilled production resins. Non-atomized spray application technology includes flow coaters, flow choppers, pressure-fed rollers, or other non-spray applications of a design and specifications approved by IDEM, OAQ.

If it is not possible to apply a portion of unfilled resins with non-atomized spray application technology, equivalent emissions reductions must be obtained via use of other emission reduction techniques. Examples of other emission reduction techniques include, but are not limited to, lower HAP monomer content resins and gel coats, closed molding, vapor suppression, vacuum bagging/bonding, or installing a control device.

- (E) Optimized spray techniques according to a manner approved by IDEM, OAQ shall be used for gel coats and filled resins (where fillers are required for corrosion or fire retardant purposes) at all times. Optimized spray techniques include, but are not limited to, the use of airless, air-assisted

airless, high volume low pressure (HVLP), or other spray applicators demonstrated to the satisfaction of IDEM, OAQ, to be equivalent to the spray applicators listed above.

HVLP spray is the technology used to apply material to substrate by means of application equipment that operates between one-tenth (0.1) and ten (10) pounds per square inch gauge (psig) air pressure measured dynamically at the center of the air cap and at the air horns of the spray system.

- (c) The listed work practices shall be followed for the fiberglass panel manufacturing lines "A", "B", and "C":
  - (1) To the extent possible, a non-VOC, non-HAP solvent shall be used for cleanup.
  - (2) For VOC- and/or HAP-containing materials:
    - (A) Cleanup solvent containers shall be used to transport solvent from drums to work.
    - (B) Cleanup stations shall be closed containers having soft-gasketed, spring-loaded closures and shall be kept completely closed when not in use.
    - (C) Cleanup rags saturated with solvent shall be stored, transported, and disposed of in containers that are closed tightly.
    - (D) The spray guns used shall be the type that can be cleaned without the need for spraying the solvent into the air.
    - (E) All solvent sprayed during cleanup or resin changes shall be directed into containers. Such containers shall be closed as soon as solvent spraying is complete and the waste solvent shall be disposed of in such a manner that evaporation is minimized.
  - (3) All material storage containers shall be kept covered when not in use.

D.1.3 Work Practice Standards for Reinforced Plastic Composites Fabrication [326 IAC 20-25-4]

Pursuant to 326 IAC 20-25-4, the following work practice standards shall be implemented:

- (a) Non-atomizing spray equipment shall not be operated at pressures that atomize the material during the application process.
- (b) Except for mixing containers as described in item (g), HAP containing materials shall be kept in a closed container when not in use.
- (c) Solvents sprayed during cleanup and resin changes shall be directed into solvent collection containers.
- (d) Solvent collection containers shall be kept closed when not in use.
- (e) Clean-up rags with solvent shall be stored in closed containers.
- (f) Closed containers shall be used for the storage of the following:

- (1) All production and tooling resins that contain HAPs.
  - (2) All production and tooling gel coats that contain HAPs.
  - (3) Waste resins and gel coats that contain HAPs.
  - (4) Cleaning materials, including waste cleaning materials.
  - (5) Other materials that contain HAPs.
- (g) All resin and gel coat mixing containers with a capacity equal to or greater than fifty-five (55) gallons must have a cover with no visible gaps in place at all times except when material is being added to or removed from a container, or when mixing or pumping equipment is being placed in or removed from a container.

D.1.4 Operator Training for Reinforced Plastic Composites Fabrication [326 IAC 20-25-8]

Pursuant to 326 IAC 20-25-8, all new and existing personnel, including contract personnel, who are involved in resin and gel coat spraying and spray-like applications (for example, those applications that could result in excess emissions if performed improperly) shall be trained according to the following schedule:

- (a) All personnel hired after March 7, 2001 shall be trained within fifteen (15) days of hiring.
- (b) All personnel hired before March 7, 2001 shall be trained or evaluated by a supervisor within thirty (30) days of the start of operation.
- (c) To ensure training goals listed in subsection (b) are maintained, all personnel shall be given refresher training annually.
- (d) Personnel who have been trained by another owner or operator subject to 326 IAC 20-25 are exempt from subdivision (a) if written documentation that the employee's training is current is provided to the new employer.
- (e) If the result of an evaluation shows that training is needed, such training shall occur within fifteen (15) days of the evaluation.
- (f) The lesson plans shall cover, for the initial and refresher training, at a minimum, all of the following topics:
  - (1) Appropriate application techniques.
  - (2) Appropriate equipment cleaning procedures.
  - (3) Appropriate equipment setup and adjustment to minimize material usage and overspray.
- (g) The owner or operator shall maintain the following training records on site and available for inspection and review:
  - (1) A copy of the current training program.
  - (2) A list of all current personnel, by name, that are required to be trained and the dates they were trained and the date of the most recent refresher training.

Records of prior training programs and former personnel are not required to be maintained.

**D.1.5 Particulate Matter (PM) [40 CFR 52, Subpart P]**

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- (a) Pursuant to CP No. 039-4937-00002, issued on March 21, 1996 and 40 CFR 52, Subpart P, the particulate matter (PM) from the fiberglass panel manufacturing line, identified as the "A" line, shall be limited by the following:

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:

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

- (b) Pursuant to CP No.039-9288-00002, issued on August 6, 1998 and 40 CFR 52, Subpart P, the fiberglass panel manufacturing line, identified as the "B" line, shall be limited by the following:

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:

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

Where the allowable PM emission rate from the fiberglass panel manufacturing line, identified as the "B" line shall not exceed 1.88 pounds per hour.

- (c) Pursuant to SPM No.039-12284-00002, issued on October 13, 2000 and 40 CFR 62, Subpart P, the particulate matter emissions from the fiberglass panel manufacturing line, identified as the "C" line, shall not exceed 4.08 lb/hr based on the following 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.1.6 Preventive Maintenance Plan [326 IAC 2-7-5(13)]**

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A Preventive Maintenance Plan, in accordance with Section B -Preventive Maintenance Plan; of this permit, is required for line "A" line, "B", and line "C" and any control devices.

**Compliance Determination Requirements**

**D.1.7 Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAPs) [326 IAC 8-1-4(a)] [326 IAC 8-1-2(a)]**

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Compliance with the volatile organic HAP content and usage limitations contained in Condition D.1.2 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) using formulation data supplied by the coating manufacturer. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

**D.1.8 Emissions Standards for Reinforced Plastics Composites Fabricating [326 IAC 20-25-3]**

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Compliance with the limitations contained in Condition D.1.2 may be demonstrated using monthly emission averaging within each resin or gel coat application category by the use of resins or gel coats with HAP monomer contents lower than the limits specified, and/or additional emission reduction techniques approved by IDEM, OAQ.

Examples of emission reduction techniques include, but are not limited to, using non-atomized application to apply resins or gel coats within a category that does not require non-atomized application, lower monomer content resins and gel coats, vapor suppression, vacuum bagging, controlled spraying, or installing a control device. This is allowed to meet the HAP monomer content limits for resins and gel coats within each category, and shall be calculated on an equivalent emissions mass basis monthly to demonstrate compliance as shown below:

For Averaging within a category:

$$Em_A \leq (M_R * E_a)$$

Where:

$M_R$  = Total monthly mass of material within each category  
 $E_a$  = Emission factor for each material based on allowable monomer content and allowable application method for each category.  
 $Em_A$  = Actual monthly emissions from all materials used within a category based on material specific emission factors, emission reduction techniques and emission controls

*Units: mass = tons  
emission factor = lbs of monomer per ton of resin or gel coat  
emissions = lbs of monomer*

Note: Fillers may not be included when averaging.

#### D.1.9 Particulate Matter (PM)

- (a) Pursuant to CP No.039-4937 -00002, issued on March 21, 1996, the dry filter control shall be in operation at all times when the fiberglass panel manufacturing line, identified as the "A" line, is in operation.
- (b) Pursuant to CP No.039-9288-00002, issued on August 6, 1998, the dry filters for PM control shall be in operation at all times when the fiberglass panel manufacturing line, identified as the "B" line.
- (c) Pursuant to CP No.039-12284-00002, issued on October 13, 2000, the dry filters for PM control shall be in operation at all times when the fiberglass panel manufacturing line, identified as the "C" line.

#### Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

##### D.1.10 Visible Emissions Notations

- (a) Weekly visible emission notations of all exhaust to the atmosphere from the line "A", line "B", and line "C" fiberglass panel manufacturing lines' stack exhaust shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

#### D.1.11 Monitoring

- (a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters, when the lines are in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. 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.
- (b) Monthly inspections shall be performed of the particulate emissions from the stack and the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when a noticeable change in overspray emission, or evidence of overspray emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. 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) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

### **Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

#### D.1.12 Record Keeping Requirements

- (a) To document compliance with Condition D.1.2, the Permitted shall maintain records in accordance with (1) through (7) below. Records maintained for (1) through (7) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC and HAP usage limits and the VOC and monomer content limits established in Condition D.1.2.
  - (1) The amount of each resin and gel coat used. The VOC and mass weighted monomer content of each resin and gel coat used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;
  - (2) A log of the dates of use;
  - (3) The volume weighted volatile organic HAP content of the coatings used for each month;
  - (4) The cleanup solvent usage for each month;
  - (5) The total volatile organic HAP usage for each month;
  - (6) The weight of volatile organic HAP emitted for each compliance period;
  - (7) Method of application and other emission reduction techniques for each resin and gel coat used for each month.
- (b) To document compliance with Condition D.1.11, the Permitted shall maintain a log of daily and weekly inspections of the filters, and those additional inspections prescribed by the Preventive Maintenance Plan.

- (c) To document compliance with Condition D.1.10, the Permittee shall maintain records of weekly visible emission notations of the spray applicators' stack exhausts.
- (d) To document compliance with Condition D.1.4, the Permittee shall maintain the following training records:
  - (1) A copy of the current training program.
  - (2) A list of all current personnel, by name, that are required to be trained and the dates they were trained and the date of the most recent refresher training. Records of prior training programs and former personnel are not required to be maintained.
- (e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

#### D.1.13 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.1.2 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 "responsible official" as defined by 326 IAC 2-7-1(34 ).

## SECTION D.2 FACILITY OPERATION CONDITIONS

### Facility Description [326 IAC 2-7-5(15)]:

- (d) One (1) Lauan woodworking station for lines A, B, and C, identified as Unit 002, with a maximum raw material input rate of 265 pounds per hour, consisting of one (1) wide belt sander, one (1) table saw, one (1) chop saw, and one (1) panel saw, all controlled by one (1) Honeyville baghouse, exhausting to stack S002. (Constructed in 1988)
- (e) One (1) standby woodworking shop equipment for lines A, B, and C, identified as Unit 004, with a maximum throughput rate of 265 pounds of raw material per hour, consisting of one (1) wide belt sander, controlled by one (1) Torit cyclone/dust collector exhausting to stack S004. (Constructed in 1998 and 2000)
- (f) One (1) panel grinding/trimming station for lines A and B, identified as Unit 005, with a maximum raw material input rate of 1,411 lb/hr, consisting of one (1) CNC panel saw, two (2) hand saws, and four (4) hand grinders, controlled by one (1) bag house (CDC1), exhausting to stack S005. (Constructed in 1988 and 1998)
- (g) One (1) panel CNC saw for line C, identified as Unit 006, with a maximum throughput rate of 627 pounds of raw material per hour, controlled by one (1) UAS dust collector (Dust Hog) and one (1) UAS interior baghouse, exhausting to stack S006. (Constructed in 2000)
- (h) Two (2) panel grinding machines for line C, identified as Unit 007, each with a maximum raw material input rate of 627 pounds per hour, controlled by one (1) RUWAC portable drum dust collector, one (1) UAS dust collector (Dust Hog), and one (1) UAS interior baghouse, exhausting to stack S006. (Constructed in 2000)
- (i) One (1) vertical saw for Line C, identified as 008, with a maximum throughput rate of 627 pounds of raw materials per hour, controlled by one (1) UAS dust collector (Dust Hog) and one (1) UAS interior baghouse, and exhausting to stack S006. (Constructed in 2002)

(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 2-7-5(1)]

#### D.2.1 Particulate Matter (PM) [326 IAC 6-3-2]

Particulate emissions from the operations 002, 004, 005, 006, 007 and 008 shall be limited to the emission limits listed in the table below:

Unit ID	Max. Throughput Rate (lbs/hr)	Particulate Emission Limit (lbs/hr)
002	265	1.06
004	265	1.06
005	1,411	3.25
006	627	1.89
007	627	1.89
008	627	1.89

The pounds per hour limitation was calculated with 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:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour and  
P = process weight rate in tons per hour

#### D.2.2 PSD Minor Modification Limits [326 IAC 2-2]

Pursuant to 326 IAC 2-2 (PSD), the PM and PM10 emissions from operations 002, 004, 006, 007, and 008 shall not exceed the emissions limits listed in the table below:

Unit ID	PM10 Emission Limit (lbs/hr)	PM Emission Limit (lbs/hr)
002	0.21	0.42
004	0.92	1.80
006, 007, and 008	1.14	2.24

This is equivalent to 9.94 tons/yr of PM10 emissions and 19.5 tons/yr of PM emissions. Combined with the PM/PM10 emissions from fiberglass panel manufacturing line C (003), the particulate emissions from this Significant Source Modification #039-17785-00002, are limited to less than 15 tons/yr for PM10 and less than 25 tons/yr for PM. Therefore, the requirements of 326 IAC 2-2 (PSD) are not applicable.

#### D.2.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the operations 002, 004, 005, 006, 007, and 008, and any control devices.

### Compliance Determination Requirements

#### D.2.4 Particulate Matter (PM) and PM10

The dust collectors and baghouses for PM and PM10 control shall be in operation and control emissions from the operations 002, 004, 005, 006, 007 and 008 at all times that these units are in operation.

### Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

#### D.2.5 Visible Emissions Notations

- (a) Daily visible emission notations from the baghouses, dust collectors/cyclone for the woodworking and finishing operations 002, 004, 005, 006, 007, and 008 stack exhausts shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

#### D.2.6 Parametric Monitoring

The Permittee shall record the total static pressure drop across the baghouses and dust collectors used in conjunction with the woodworking and finishing operations 002, 004, 005, 006, 007, and 008, at least once a week when these woodworking and finishing operations are in operation and venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouses shall be maintained within the range of 2.0 and 4.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for anyone reading.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

#### D.2.7 Baghouse Inspections

An inspection shall be performed each calendar quarter of all bags controlling the operations 002, 004, 005, 006, 007, and 008 when venting to the atmosphere. Inspections required by this condition shall not be performed in consecutive months. Inspections are optional when venting to the indoors. All defective bags shall be replaced.

#### D.2.8 Broken or Failed Bag Detection

In the event that bag failure has been observed:

- (a) The affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) 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) hours of discovery of the failure and shall include a timetable for completion. 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).
- (b) 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).

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

#### D.2.9 Record Keeping Requirements

- (a) To document compliance with Condition D.2.5, the Permittee shall maintain daily visible emission notations of the woodworking stations stack exhaust.

- (b) To document compliance with Condition D.2.6, the Permittee shall maintain the weekly records of the total static pressure drop during normal operation when venting to the atmosphere.
- (c) To document compliance with Condition D.2.7, the Permittee shall maintain records of the results of the inspections required under Condition D.2.7.
- (d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

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

**PART 70 OPERATING PERMIT  
CERTIFICATION**

Source Name: Owens Corning Fabricating Solutions  
Source Address: 16710 Maple Drive, Goshen, Indiana 46526  
Mailing Address: 16710 Maple Drive, Goshen, Indiana 46526  
Part 70 Permit No.: 039-6091-00002

**This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.**

Please check what document is being certified:

- 9 Annual Compliance Certification Letter
- 9 Test Result (specify) \_\_\_\_\_
- 9 Report (specify) \_\_\_\_\_
- 9 Notification (specify) \_\_\_\_\_
- 9 Other (specify) \_\_\_\_\_

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE BRANCH  
P.O. Box 6015  
100 North Senate Avenue  
Indianapolis, Indiana 46206-6015  
Phone: 317-233-5674  
Fax: 317-233-5967**

**PART 70 OPERATING PERMIT  
EMERGENCY/DEVIATION OCCURRENCE REPORT**

Source Name: Owens Corning Fabricating Solutions  
Source Address: 16710 Maple Drive, Goshen, Indiana 46526  
Mailing Address: 16710 Maple Drive, Goshen, Indiana 46526  
Part 70 Permit No.: 039-6091-00002

**This form consists of 2 pages**

**Page 1 of 2**

- 9** This is an emergency as defined in 326 IAC 2-7-1(12)
- The Permittee must notify the Office of Air Quality (OAQ), within four (4) business hours (1-800-451-6027 or 317-233-5674, ask for Compliance Section); and
  - The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-5967), and follow the other requirements of 326 IAC 2-7-16.

If any of the following are not applicable, mark N/A

Facility/Equipment/Operation:

Control Equipment:

Permit Condition or Operation Limitation in Permit:

Description of the Emergency:

Describe the cause of the Emergency:

If any of the following are not applicable, mark N/A

Page 2 of 2

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency?    Y    N Describe:
Type of Pollutants Emitted: TSP, PM-10, SO <sub>2</sub> , VOC, NO <sub>x</sub> , CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by: \_\_\_\_\_  
Title / Position: \_\_\_\_\_  
Date: \_\_\_\_\_  
Phone: \_\_\_\_\_

A certification is not required for this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
Compliance Data Section**

**Part 70 Quarterly Report**

Source Name: Owens Corning Fabricating Solutions  
Source Address: 16710 Maple Drive, Goshen, Indiana 46526  
Mailing Address: 16710 Maple Drive, Goshen, Indiana 46526  
Part 70 Permit No.: 039-6091-00002  
Facility: fiberglass panel manufacturing lines, identified as line "A" and line "B".  
Parameter: VOCs  
Limit: VOC emissions less than 249 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

YEAR: \_\_\_\_\_

Month	Usage This Month (tons/month)	Usage for Previous 11 Months (tons)	Usage for Previous 12 Month Period (tons)	Emissions This Month (tons/month)	Emission For Previous 11 Months (tons)	Emissions for Previous 12 Month Period (tons)
Month 1						
Month 2						
Month 3						

- 9 No deviation occurred in this quarter.
- 9 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.

## INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY Compliance Data Section

### Part 70 Quarterly Report

Source Name: Owens Corning Fabricating Solutions  
Source Address: 16710 Maple Drive, Goshen, Indiana 46526  
Mailing Address: 16710 Maple Drive, Goshen, Indiana 46526  
Part 70 Permit No.: 039-6091-00002  
Facility: One (1) fiberglass panel manufacturing line, identified as line "C".  
Parameter: VOC/HAP PTE  
Limit: VOC emissions less than 129.6 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

YEAR: \_\_\_\_\_

Month	Usage This Month (tons/month)	Usage for Previous 11 Months (tons)	Usage for Previous 12 Month Period (tons)	Emissions This Month (tons/month)	Emission For Previous 11 Months (tons)	Emissions for Previous 12 Month Period (tons)
Month 1						
Month 2						
Month 3						

- 9 No deviation occurred in this quarter.
- 9 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.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF AIR QUALITY  
 Compliance Data Section**

**PART 70 OPERATING PERMIT  
 QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT**

Source Name: Owens Corning Fabricating Solutions  
 Source Address: 16710 Maple Drive, Goshen, Indiana 46526  
 Mailing Address: 16710 Maple Drive, Goshen, Indiana 46526  
 Part 70 Permit No.: 039-6091-00002

**Months:** \_\_\_\_\_ **to** \_\_\_\_\_ **Year:** \_\_\_\_\_

This report shall be submitted quarterly based on a calendar year. Any deviation from the requirements, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. Deviations that are required to be reported by an applicable requirement shall be reported according to the schedule stated in the applicable requirement and do not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".	
9 NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.	
9 THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD	
<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	
<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	

<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	
<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	
<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	

Form Completed By: \_\_\_\_\_

Title/Position: \_\_\_\_\_

Date: \_\_\_\_\_

Phone: \_\_\_\_\_

Attach a signed certification to complete this report.

**November 5, 2003**  
**Indiana Department of Environmental Management**  
**Office of Air Quality**

**Addendum to the Technical Support Document  
for a Part 70 Significant Source Modification and a  
Part 70 Significant Permit Modification**

**Source Background and Description**

Source Name:	Owens Corning Fabricating Solutions (Formerly Fabwel Composites, Inc.)
Source Location:	16710 Maple City Drive, Goshen, Indiana 46526
County:	Elkhart
SIC Code:	3089
Operation Permit No.:	T039-6091-00002
Operation Permit Issuance Date:	December 27, 2000
Significant Source Modification No.:	039-17785-00002
Significant Permit Modification No.:	039-17700-00002
Permit Reviewer:	ERG/YC

On September 20, 2003, the Office of Air Quality (OAQ) had a notice published in the Goshen News, Goshen, Indiana, stating that Owens Corning Fabricating Solutions had applied for a Part 70 Significant Source Modification and a Part 70 Significant Permit Modification to construct and operate an expansion of the existing fiberglass panel manufacturing line C. The notice also stated that OAQ proposed to issue a permit for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

Upon further review, the OAQ has decided to make the following revisions to the permit (bolded language has been added, the language with a line through it has been deleted). The Table of Contents has been modified, if applicable, to reflect these changes.

1. In the permit application received on May 29, 2003, the source indicated that a new type of resin application may be added to the existing fiberglass panel manufacturing line C. The new resin application process is called the Vacuum Infusion Process (VIP). This is a closed molding operation that uses a vacuum to pull resin into the mold. However, during the permit review process, the source indicated that the decision to add the VIP resin application was not yet final . Therefore, the additional VIP resin application was not included in the proposed permit.

During the public notice period, the source decided to install an additional VIP resin applicator in the near future to be part of the Line C expansion project. Since the VIP is an enclosed molding process, the VOC/HAP emissions from this application are expected to be lower than the open molding process. In addition, the enclosed molding process is not subject to the requirements of 326 IAC 20-25 (Reinforced Plastics Composites Fabricating Emission Units), pursuant to 326 IAC 20-25-1(a)(2).

According to the website of the American Composites Manufacturers Association (ACMA), the VOC emission factor is 1% by weight ( = 20 lbs/ton) of the styrene used for the closed molding

process. Based on the information submitted by the source on October 20, 2003, the maximum styrene content for the resin used at this source is expected to be 40% and the maximum resin usage is 109 pounds of resin per panel. Therefore, the PTE of styrene from the new VIP resin applicator is:

$4.5 \text{ panel/hr} \times 109 \text{ lbs/panel} \times 40\% \text{ styrene} \times 1\% \text{ emission factor} \times 8760 \text{ hr/yr} \times 1 \text{ ton}/2000 \text{ lbs} = 8.59 \text{ tons/yr.}$

The source has proposed to limit the HAP monomer content of the resin used in VIP application to be less than 40% by weight as part of the BACT for the existing Line C and to maintain the proposed VOC/HAP emission limit of 129.6 tons per twelve (12) consecutive month period for the existing Line C. The new VIP application shall also comply with the work practices listed in Condition D.1.2(c) as part of the BACT for the existing Line C. Therefore, the unit description for Line C and Condition D.1.2(b) have been revised as follows to reflect the additional VIP resin application at Line C:

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)]  
[326 IAC 2-7-5(15)]

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This stationary source consists of the following emission units and pollution control devices:

. . . .

- (c) One (1) fiberglass panel manufacturing line, identified as the "C" line and Unit 003, consisting of two (2) optimized spray or equivalent gel coat application systems, ~~exhausting through five (5) stacks designated as CEX1-CEX5,~~ and one (1) non-atomized or equivalent resin application system with covered cure, **and one (1) Vacuum Infusion Process (VIP) resin application system**, exhausting through five (5) stacks designated as CEX1-CEX5, with dry filters for overspray. (Constructed in 2000 and modified in 2003)

**SECTION D.1**

**FACILITY OPERATION CONDITIONS**

**Facility Description [326 IAC 2-7-5(15)]**

- (a) One (1) fiberglass panel manufacturing line, identified as the "A" line and Unit 001, consisting of three (3) fiberglass panel reciprocators, each equipped with one (1) optimized spray or equivalent gel coat application system and one (1) non-atomized or equivalent resin application system, with dry filters for overspray and exhausting at eleven (11) stacks, identified as SV-25 through SV-35. Only two (2) of the three (3) reciprocators may be operated simultaneously, with the third reciprocator used as a back-up. (Constructed in 1987)
- (b) One (1) fiberglass panel manufacturing line, identified as the "B" line and Unit 001, consisting of two (2) fiberglass panel reciprocators, each equipped with one (1) optimized spray or equivalent gel coat application system and one (1) non-atomized or equivalent resin application system, with dry filters for overspray and exhausting to twelve (12) stacks designated as SV-36 through SV-47. (Constructed in 1998)
- (c) One (1) fiberglass panel manufacturing line, identified as the "C" line and Unit 003, consisting of two (2) optimized spray or equivalent gel coat application systems, ~~exhausting through five (5) stacks designated as CEX1-CEX5, and~~ one (1) non-atomized or equivalent resin application system with covered cure, **and one (1) Vacuum Infusion Process (VIP) resin application system**, exhausting through five (5) stacks designated as CEX1-CEX5, with dry filters for overspray. (Constructed in 2000 and modified in 2003)

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

**D.1.2 New Source Toxics Control [326 IAC 2-4.1-1] [326 IAC 8-1-6]**

.....

- (b) Pursuant to the MACT determination under 326 IAC 4.1-1 and 326 IAC 8-1-6 (BACT), the operating conditions for the fiberglass panel manufacturing line, identified as the "C" line, shall be the following:
  - (1) Use of resins and gel coats that contain styrene shall be limited such that the potential to emit (PTE) volatile organic HAP from use of such resins and gel coats only shall be less than 129.6 tons per twelve (12) consecutive month period with compliance determined at the end of each month. Compliance with this limit shall be determined based upon the following criteria:

.....

- (B) The emission factors approved for use by IDEM, OAQ **for open molding processes** shall be taken from the following reference: "Unified Emission Factors for Open Molding of Composites," Composites Fabricators Association, July 23, 2001. **The emission factor for the VIP application system (closed molding) is 1% by weight of the HAP monomer content, which is provided by the American Composites Manufacturers Association (ACMA).** For the purposes of these emission calculations, HAP monomer in resins and gel coats that is not styrene or methyl methacrylate shall be considered as styrene on an equivalent weight basis.

- (C) The HAP monomer content of resins and gel coats used shall be limited to the following or their equivalent on an emissions mass basis:

Type of Gel Coat or Resin	HAP Monomer Content, % by weight
<b>Open Molding</b> Production 1 Gel Coat	36
<b>Open Molding</b> Production Resin	35
<b>VIP Production Resin</b>	<b>40</b>

<sup>1</sup>Production refers to the manufacture of parts.

No changes have been made to the TSD because the OAQ prefers that the Technical Support Document reflect the permit that was on public notice. Changes to the permit or technical support material that occur after the public notice are documented in this Addendum to the Technical Support Document. This accomplishes the desired result of ensuring that these types of concerns are documented and part of the record regarding this permit decision.

## Indiana Department of Environmental Management Office of Air Quality

### Technical Support Document (TSD) for a Part 70 Significant Source Modification and a Part 70 Significant Permit Modification

#### Source Background and Description

Source Name:	Owens Corning Fabricating Solutions (Formerly Fabwel Composites, Inc.)
Source Location:	16710 Maple City Drive, Goshen, Indiana 46526
County:	Elkhart
SIC Code:	3089
Operation Permit No.:	T039-6091-00002
Operation Permit Issuance Date:	December 27, 2000
Significant Source Modification No.:	039-17785-00002
Significant Permit Modification No.:	039-17700-00002
Permit Reviewer:	ERG/YC

The Office of Air Quality (OAQ) has reviewed a modification application from Owens Corning Fabricating Solutions (formerly "Fabwel Composites, Inc.") relating to the modification of the following emission units and pollution control devices:

- (c) One (1) fiberglass panel manufacturing line, identified as line "C" or Unit 003, constructed in 2000, with a maximum throughput rate of 4.5 molds per hour, consisting of one (1) air assisted airless gel coat application system and one (1) non-atomized spray resin application system, using dry filters for overspray for control, and exhausting through stacks CEX1 - CEX5.
- (d) One (1) woodworking station, with a maximum throughput rate of 265 pounds of raw material per hour, consisting of one (1) wide belt sander (001), one table saw (002), and one (1) panel saw (003), controlled by one (1) dust collector (004).
- (e) One (1) woodworking stop, consisting of (1) wide belt sander (005), one (1) chop saw (006), controlled by one (1) cyclone and one portable baghouse (007).
- (f) One woodworking station, with a maximum throughput rate of 1,411 pounds of raw material per hour, consisting of one (1) CNC panel saw, two (2) hand saws, and eight (8) hand grinders, controlled by one (1) baghouse (CDC1).
- (g) One woodworking station, with a maximum throughput rate of 1,423 pounds of raw material per hour, consisting of two (2) wide belt side sanders and two (2) table saws, controlled by one (1) baghouse (CDC2).

- (h) One (1) sandblast cabinet, identified as 008, with a maximum aluminum oxide usage of 380 pounds per hour.
- (i) One (1) CNC saw, identified as 010, controlled by one (1) dust collector (011).
- (j) Four (4) fiberglass/wood grind machines, each with a maximum throughput rate of 627 pounds of raw material per hour.

## History

Owens Corning Fabricating Solutions (formerly "Fabwel Composites, Inc.") is an existing fiberglass panel manufacturing plant and their Title V permit (T039-6091-00002) was issued on December 27, 2000. On May 29, 2003, the Permittee submitted an application to the OAQ requesting the following changes to their existing plant:

- (a) Increasing the HAP emission limit for the existing fiberglass panel manufacturing line C from 100 tons/yr to 129.6 ton/yr.
- (b) Redesignation of the unit identification numbers for the existing units.
- (c) Correction in the unit descriptions.
- (d) Allowing the source to use monthly emission averaging method to demonstrate compliance with HAP content limits.
- (e) Allowing the source to use the equivalent application technology for the existing fiberglass panel manufacturing lines.

## Summary of Modification

- (a) The source proposed to expand the existing fiberglass panel manufacturing Line C, including increasing the VOC/HAP emission limits from 100 tons/yr to 129.6 tons/yr, adding eight (8) additional fiberglass panel molds, and adding one (1) additional gel coat applicator.

In CP #039-12284-00002, issued on October 13, 2000, the VOC/HAP emissions from the use of resins and gel coats from Line C were limited to less than 100 tons per twelve (12) consecutive month period, pursuant to 326 IAC 8-1-6 (BACT) and 326 IAC 2-4.1-1 (MACT). The Permittee requested to revise these VOC/HAP emission limits from 100 to 129.6 tons per twelve (12) consecutive month period due to an increase in demand. Since the increase in potential VOC emissions is greater than 25 tons/yr, this modification is subject to 326 IAC 8-1-6 and a BACT analysis is required for this modification.

The source is also an existing PSD major source. This modification will increase the production rate in Line C and will also increase utilization of the existing woodworking operations associated with Line C. Therefore, the emissions from Line C and the associated woodworking operations will be limited to less than 40 tons/yr for VOC, 15 tons/yr for PM10, and 25 tons/yr for PM. Therefore, the requirements of 326 IAC 2-2 (PSD) are not applicable to this modification.

- (b) The source indicated that there were changes in equipment configuration and requested to update the unit descriptions for all the existing emission units. The proposed unit identification numbers and the existing ones are listed in the table below:

Existing Unit Description in T039-6091-00002		Proposed Unit Description		
Unit	Unit ID and Description	Unit	Unit ID	Unit Description
fiberglass panel manufacturing lines A and B	3 airless gel coaters 1 airless resin applicator 2 airless gel coaters 1 airless resin applicator	fiberglass panel manufacturing lines A and B	001	3 optimized spray or equivalent gel coaters 1 non-atomized or equivalent resin applicator 2 optimized spray or equivalent gel coaters 1 non-atomized or equivalent resin applicator
fiberglass panel manufacturing line C	1 airless gel coater 1 non-atomized resin applicator	fiberglass panel manufacturing line C	003	2 optimized spray or equivalent gel coaters (includes a new one from this modification) 1 non-atomized or equivalent resin applicator
woodworking station	1 belt sander 001 1 table saw 002 1 panel saw 003 1 dust collector 004	lauan woodworking station for Lines A, B, and C	002	1 belt sander (previously 001) 1 table saw (previously 002) 1 chop saw (previously 006) 1 panel saw (previously 003) 1 baghouse (previously 004)
woodworking shop	1 belt sander 005 1 chop saw 006 1 cyclone 1 baghouse 007	standby woodworking equipment for Lines A, B, and C	004	1 belt sander (previously 005) 1 dust collector (previously 007)
woodworking station	1 CNC panel saw 2 hand saws 8 hand grinders 1 baghouse CDC1	panel grinding/trimming station for Lines A and B	005	1 CNC panel saw 2 hand saws 4 hand grinders (did not install the other 4 grinders) 1 baghouse CDC1
CNC saw	1 CNC panel saw 010 1 dust collector 011	panel CNC saw for Line C	006	1 CNC panel saw (previously 010) 1 dust collector (Dust Hog, previously 011) 1 interior baghouse
fiberglass/wood grind machines	4 grind machines	panel grinding machines for Line C	007	2 grinding machines (did not install the other 2 grind machines) 1 portable drum dust collector 1 dust collector 1 interior baghouse

\* Note: Optimized spray applications include airless air-assisted, airless, HVLP, or other equivalent spray applicators.

(c) The source stated that the following units have never been installed:

- (1) One (1) woodworking station, with a maximum raw material input rate of 1,423 lbs/hr, consisting of two (2) wide belt side sanders and two (2) table saws, with one (1) baghouse for control (CDC2).
- (2) One (1) sandblast cabinet, identified as 008, with a maximum aluminum oxide flow rate of 380 pounds per hour.

Therefore, these units will be removed from the revised Part 70 permit.

- (d) The source has installed the following new emission unit without an air approval, and stated that it is a back-up unit:

One (1) vertical saw for Line C, identified as 008, constructed in 2002, with a maximum throughput rate of 727 pounds of raw materials per hour, controlled by an existing dust collector (identified as Dust Hog) and an interior baghouse, and exhausting to stack S006.

The potential to emit PM/PM10 from dust collector Dust Hog is 134 tons/yr before control, which is greater than the exemption level in 326 IAC 2-1.1-3(e)(1). Therefore, this unit is considered to have been constructed without a proper permit.

- (e) The Permittee stated that a wide variety of gel coats and resins are used at this source. The source requested a revision to the permit allowing them to demonstrate compliance with the HAP monomer content limits for resins and gel coats used using monthly emission averaging method.

IDEM, OAQ has determined that compliance with the HAP content limit for the resin and gel coats used in reinforced plastic manufacturing operations can be demonstrated using monthly emission averaging within each resin or gel coat category by the use of resins or gel coats with HAP monomer contents lower than the limits specified. An example calculation is shown below:

For Averaging within a category:

$$Em_A \leq (M_R * E_a)$$

Where:

$M_R$  = Total monthly mass of material within each category

$E_a$  = Emission factor for each material based on allowable monomer content and allowable application method for each category.

$Em_A$  = Actual monthly emissions from all materials used within a category based on material specific emission factors, emission reduction techniques and emission controls

*Units: mass = tons*

*emission factor = lbs of monomer per ton of resin or gel coat*

*emissions = lbs of monomer*

Note: Fillers may not be included when averaging.

- (f) Condition D.1.1(a) in T039-6091-00002, issued on December 27, 2000, specifies that the BACT for the fiberglass panel manufacturing line A is using "air assisted airless" application systems for gel coat, and using "airless" applications for resin, pursuant to 326 IAC 8-1-6 (BACT). In order to have flexibility choosing the type of application technology, the source requested that the equivalent application technology also be permitted. The proposed application technologies and existing permitted technologies are listed in the table below:

	Application Requirements for Line A	
	Resin Applicators	Gel Coat Applicators

Permitted Application Technologies in T039-6091-00002	airless	air-assisted airless
Proposed Application Technologies	airless or equivalent	air-assisted airless, airless, HVLP, non-atomized, or equivalent

IDEM, OAQ has determined that the source will have to obtain a rule variance under 326 IAC 20-25-3(h)(1) for the changes in of application techniques for the existing fiberglass manufacturing line A. This rule variance is currently under processing and the permitted application techniques for the existing line A will not be changed until this variance is granted.

Note that 326 IAC 20-25-3(b) requires fiberglass sources to use mechanical non-atomized application for resin applicators. However, this source's Part 70 permit (T039-6091-00002, issued on December 27, 2000) was issued before the effective date of 326 IAC 20-25, February 5, 2001, and there is no modification to the existing manufacturing line A. Therefore, this line is exempt from the requirement of 326 IAC 20-25-3, pursuant to 326 IAC 20-25-3(e).

**Enforcement Issue**

- (a) IDEM is aware that the back-up vertical saw 008 for line C has been constructed prior to receipt of the proper permit.
- (b) IDEM is reviewing this matter and will take appropriate action. This proposed approval is intended to satisfy the requirements of the construction permit rules.

**Recommendation**

The staff recommends to the Commissioner that the Part 70 Significant Source Modification and the Part 70 Significant Permit Modification 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 May 29, 2003. Additional information was received on July 22, 2003, July 28, 2003, and August 25, 2003.

**Emission Calculations**

See Appendix A of this document for detailed emissions calculations (pages 1 through 3).

**Potential To Emit of Modification**

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source 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, 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."

Pollutant	Potential To Emit (tons/year)
PM	2,949
PM-10	2,949
SO <sub>2</sub>	--
*VOC	169
*CO	--
NO <sub>x</sub>	--

HAP's	Potential To Emit (tons/year)
Styrene	138
MMA	30.9
MEK	0.39
TOTAL	169

**Justification for Modification**

This modification is being performed through a Part 70 Significant Source Modification because: (1) the potential to emit of this modification is greater than 25 tons/yr for PM, PM10, and VOC pursuant to 326 IAC 2-7-10.5(f)(4); (2) the potential to emit of this modification is greater than 10 tons/yr for a single HAP and greater than 25 tons/yr for any combination of HAPs pursuant to 326 IAC 2-7-10.5(f)(6); (3) this is a modification subject to 326 IAC 8-1-6 pursuant to 326 IAC 2-7-10.5(f)(2). The permit modification is being performed through a Part 70 Significant Permit Modification pursuant to 326 IAC 2-7-12(d) because this modification involves changes in the existing emission limits in the source's Title V permit and there are new applicable requirements.

**County Attainment Status**

The source is located in Elkhart County.

Pollutant	Status
PM-10	Attainment
SO <sub>2</sub>	Attainment
NO <sub>x</sub>	Attainment
Ozone	Maintenance 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. Elkhart County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD) and 326 IAC 2-2.
- (b) Elkhart County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD) and 326 IAC 2-2.
- (c) Fugitive Emissions  
 Since this type of operation is not in one of the 28 listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive PM emissions are not counted toward determination of PSD applicability.

**Source Status**

Existing Source PSD Definition (emissions after controls, based upon 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/year)
PM	10
PM-10	10
SO <sub>2</sub>	0
VOC	Less than 350
CO	1.0
NO <sub>x</sub>	3.0

- (a) This existing source is a major stationary source because an attainment regulated pollutant (VOC) is emitted at a rate of two hundred fifty (250) tons per year or more, and it is not in one (1) of the twenty-eight (28) listed source categories.
- (b) These emissions, except for VOC emissions, are based upon the 2001 emission inventory data from the source. The VOC emissions from the entire source were limited to less than 350 tons per year in the source's Title V permit (T039-6091-00002, issued December 27, 2000).

**Potential to Emit of Modification After Issuance**

The table below summarizes the potential to emit, reflecting all limits, of the significant emission units after controls. The control equipment is considered federally enforceable only after issuance of this Part 70 source modification.

Process/facility	Potential to Emit (tons/year)						
	PM	PM-10	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs
PTE of Line C (003)	Less than 4.87	Less than 4.87	--	Less than 129.6	--	--	Less than 129.6
PTE of Woodworking and Finishing Operations (002, 004, 006, 007, and 008)	Less than 19.5	Less than 9.94	-	-	-	-	-
*Actual Emissions from Line C (003)	2.89	2.89	--	90.6	--	--	90.6
*Actual Emissions from Units 002, 004, 006, 007, and 008	2.95	2.95	--	--	--	--	--
**Total PTE of this Modification	Less than 18.5	Less than 8.97	--	Less than 39.0	--	--	Less than 39.0
PSD Significant Thresholds	25	15	40	40	100	40	NA

Note: (\*)The actual emissions for units 003, 004, 006, 007, and 008 are the averaged emission rate in 2001 and 2002, which is provided by Owens Corning Fabricating Solutions in the application received on May 29, 2003 and July 22, 2003.  
(\*\*) Total PTE of this Modification = (PTE of the Modified Units) - (Actual Emissions of the Modified Units).

This modification to an existing PSD major stationary source is not major because the emission increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

### Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this proposed modification.
- (b) This source does not have a spin wool fiberglass insulation manufacturing line. Therefore, the New Source Performance Standards for Wool Fiberglass Insulation Manufacturing Plants (40 CFR Part 60.680 - 60.685, Subpart PPP) are not applicable.
- (c) This source does not apply surface coating to any business machines. Therefore, the New Source Performance Standards for Surface Coating of Plastic Parts for Business Machines (40 CFR Part 60.720 - 60.726, Subpart TTT) are not applicable.
- (d) The fiberglass panel manufacturing Line C (003) manufactures products with thermoset resins and gel coats. Therefore, the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Reinforced Plastic Composites Production Facilities (40 CFR Part 63.5780 - 63.5935, Subpart WWWW) are applicable. Pursuant to 40 CFR 63.5795, this source is considered an existing HAP major source under 40 CFR 63, Subpart WWWW. Therefore, it is required to comply with this NESHAP by April 21, 2006, pursuant to 40 CFR 63.5800. Since the source's current Title V permit expires on December 27, 2005, the NESHAP requirements for 40 CFR Subpart WWWW will not be addressed in this modification, or included in the permit modification. The requirements of 40 CFR 63, Subpart WWWW will be included in the source's Title V renewal permit.
- (e) This modification does involve a pollutant-specific emissions unit (fiberglass panel manufacturing Line C) as defined in 40 CFR 64.1:
  - (1) With the potential to emit before controls equal to or greater than the major source threshold;
  - (2) That is subject to an emission limitation or standard; and
  - (3) Uses a control device (dry filters) as defined in 40 CFR 64.1 to comply with that emission limitation or standard.

However, fiberglass panel manufacturing line C (003) is subject to the NESHAP for Reinforced Plastic Composites Production Facilities (40 CFR 63, Subpart WWWW) and this NESHAP was promulgated after November 15, 1990. Pursuant to 40 CFR 64.2(b)(i), this unit is exempt from the requirements of 40 CFR 64 (Compliance Assurance Monitoring).

- (f) The fiberglass panel manufacturing processes at this source are subject to the NESHAPs for Reinforced Plastic Composites Production Facilities (40 CFR 63, Subpart WWWW), which was promulgated on April 21, 2003. Therefore, the requirements of Section 112(j) of the Clean Air Act (40 CFR Part 63.50 through 63.56) are not applicable to this modification, pursuant to 40 CFR 63.50(c).

### State Rule Applicability - Entire Source

#### 326 IAC 2-2 (Prevention of Significant Deterioration (PSD))

This source was constructed in 1987, and modified in 1998, 2000, and 2003 (this modification). This source is not in 1 of 28 source categories and has the potential to emit VOC greater than 250 tons/yr. Therefore, the existing source is a PSD major source. The source has proposed the following emission limits for this modification:

- (a) The VOC emissions from the use of resin and gel coat in the fiberglass panel manufacturing line C (003) shall not exceed 129.6 tons/yr. Since the averaged actual VOC emissions from this line are 90.6 tons/yr (based on the actual emission information in 2000 and 2001), the VOC emission increase from this modification is less than 40 tons/yr (129.6 tons/yr - 90.6 tons/yr = 39 tons/yr).
- (b) Since the increase in production in line C (003) will also increase the production in woodworking and finishing operations 002, 004, 006, 007, and 008, the PM and PM10 emissions from operations 002, 004, 006, 007, and 008 shall not exceed the emission limits listed in the table below:

Unit ID	PM10 Emission Limit (lbs/hr)	PM Emission Limit (lbs/hr)
002	0.21	0.42
004	0.92	1.80
006, 007, and 008	1.14	2.24

This is equivalent to 9.94 tons/yr of PM10 emissions and 19.5 tons/yr of PM emissions. Combined with the PM/PM10 emissions from fiberglass panel manufacturing Line C (003) (4.87 tons/yr), the particulate emissions from this modification are limited to less than 15 tons/yr for PM10 and less than 25 tons/yr for PM. According to the emission calculations (see Appendix A), the PTE of these woodworking operations after control is less than the emission limits in the table above. The use of baghouses and dust collectors ensures compliance with these limits.

Therefore, the requirements of 326 IAC 2-2(PSD) are not applicable to this modification.

#### 326 IAC 2-4.1 (New Source Toxic Control)

The fiberglass panel manufacturing Line C (003) was constructed in 2000 and modified in 2003 (this modification). The potential to emit HAP from this manufacturing line is greater than 10 tons per year for a single HAP and greater than 25 tons per year for any combination of HAPs. However, since Line C is now subject to 40 CFR 63, Subpart WWWW (NESHAP for Reinforced Plastic Composites Production Facilities), which was promulgated on April 21, 2003, the requirements of 326 IAC 2-4.1 (MACT) are not applicable to fiberglass panel manufacturing Line C.

#### 326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than ten (10) tons per year of VOC and the source is located in Elkhart County. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by April 15 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8)(Emission Statement Operating Year).

**326 IAC 5-1 (Visible Emissions Limitations)**

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

**State Rule Applicability - Fiberglass Panel Manufacturing Line C (003)**

**326 IAC 8-1-6 (General Reduction Requirements for VOC Emissions)**

The fiberglass panel manufacturing Line C (003) was constructed after 1980 and has potential VOC emissions greater than 25 tons/yr. The VOC emissions from Line C were limited to less than 100 tons/yr pursuant to 326 IAC 8-1-6 (BACT). The source requested to increase this VOC emission limit to 129.6 tons/yr. The change in the existing BACT limits requires an air approval, pursuant to 326 IAC 2-7-10.5(f)(2). In addition, the increase in the VOC emission limit for this line from 100 tons/yr to 129.6 tons/yr is greater than 25 tons/yr and there are no other applicable 326 IAC 8 rules that apply to this fiberglass panel manufacturing process. Therefore, the requirements of 326 IAC 8-1-6 (Best Available Control Technology) are applicable to manufacturing Line C (003).

Owens Corning Fabricating Solutions submitted a Best Available Control Technology (BACT) Analysis on May 29, 2003. Additional information was received on July 22, 2003 and July 28, 2003. A summary of the BACT analysis is provided in Appendix B. IDEM, OAQ has reviewed the analysis and has determined that the following requirements are the BACT for the modified Line C:

- (a) The VOC/HAP emission limits from the use of resins and gelcoats in Line C (003) shall not exceed 129.6 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (b) The HAP monomer contents of resins and gel coats used at Line C (003) shall not exceed limits listed in the table below:

Type of Gel Coat/Resin	HAP Monomer Content % by Weight
Production <sup>1</sup> Gel Coat	36%
Production Resin	35%

1. Production refers to the manufacture of parts.

Note that this source does not use any tooling gel coat or tooling resin at this line.

- (c) The use of non-atomized spray applications, or equivalent application technologies for unfilled production resins.
- (d) The use of optimized spray applications for gel coats and filled resins.
- (e) The work practice and the operator training program requirements in 326 IAC 20-25.

**326 IAC 20-25 (Reinforced Plastics Composites Fabricating Emission Units)**

This source has a potential to emit HAP greater than 10 tons/yr for a single HAP and greater than 25 tons/yr for any combination HAPs. In addition, this source has actual styrene emissions greater than 3 tons/yr. Therefore, fiberglass panel manufacturing line C (003) at this modification is subject to 326 IAC 20-25 and shall comply with the following requirements on or after January 1, 2002:

### **Emission Standards**

The Permittee shall comply with the HAP monomer content specified in 326 IAC 20-25-3(a). However, the HAP content Limits for Line C (003) determined by the BACT in this modification are the more stringent requirements for Line C at this source. Pursuant to 326 IAC 20-25-1(b), the more stringent requirements (HAP content limits) shall apply to fiberglass panel manufacturing line C.

### **Application Technology**

Pursuant to 326 IAC 20-25-3(b), the Permittee shall use non-atomized or manual application for resin applicators at line C. Pursuant to IAC 20-25-3(b), the gel coat applicators shall be non-atomized, air-assisted airless, airless, HVLP, or the equivalent applications. These requirements are also part of the MACT determined in CP 039-12284-00002, issued on October 13, 2000, and have been included in the source's Part 70 permit (T039-6091-00002, issued on December 27, 2000).

Currently, the source does not use non-atomized applicators for resin due to the poor product quality. The source uses mechanical atomized spray applicators with dry filters for the resin applicators and conducts annual operator training in accordance with the procedures documented in the "Composites Fabricators Association (CFA) Controlled Spraying Handbook". Therefore, the applicators at this source are considered "controlled" and this has been verified by the source's inspector - Mr. Greg Wingstrom. In addition, the source uses covered cure (vacuum bagging) for the molding processes without roll-out.

Since the VOC/HAP emission factors for atomized controlled spray applicators with covered cure are lower than emission factors for non-atomized spray applicators, the source is using better resin application technology than non-atomized application as required in 326 IAC 20-25-3. Therefore, the application technology requirements for Line C will be revised to allow the Permittee to use "non-atomized or equivalent" for resin applicators.

### **Work Practice Standards**

Pursuant to 326 IAC 20-25-4, the following work practice standards shall be implemented:

- (a) Non-atomizing spray equipment shall not be operated at pressures that atomize the material during the application process.
- (b) Except for mixing containers as described in item (g), HAP containing materials shall be kept in a closed container when not in use.
- (c) Solvents sprayed during cleanup and resin changes shall be directed into solvent collection containers.
- (d) Solvent collection containers shall be kept closed when not in use.
- (e) Clean-up rags with solvent shall be stored in closed containers.
- (f) Closed containers shall be used for the storage of the following:

- (1) All production and tooling resins that contain HAPs.
  - (2) All production and tooling gel coats that contain HAPs.
  - (3) Waste resins and gel coats that contain HAPs.
  - (4) Cleaning materials, including waste cleaning materials.
  - (5) Other materials that contain HAPs.
- (g) All resin and gel coat mixing containers with a capacity equal to or greater than fifty-five (55) gallons must have a cover with no visible gaps in place at all times except when material is being added to or removed from a container, or when mixing or pumping equipment is being placed in or removed from a container.

### **Operator Training**

Pursuant to 326 IAC 20-25-8, all new and existing personnel, including contract personnel, who are involved in resin and gel coat spraying and spray-like applications (for example, those applications that could result in excess emissions if performed improperly) shall be trained according to the following schedule:

- (a) All personnel hired after March 7, 2001 shall be trained within fifteen (15) days of hiring.
- (b) All personnel hired before March 7, 2001 shall be trained or evaluated by a supervisor within thirty (30) days of the start of operation.
- (c) To ensure training goals listed in subsection (b) are maintained, all personnel shall be given refresher training annually.
- (d) Personnel who have been trained by another owner or operator subject to 326 IAC 20-25 are exempt from subdivision (a) if written documentation that the employee's training is current is provided to the new employer.
- (e) If the result of an evaluation shows that training is needed, such training shall occur within fifteen (15) days of the evaluation.
- (f) The lesson plans shall cover, for the initial and refresher training, at a minimum, all of the following topics:
  - (1) Appropriate application techniques.
  - (2) Appropriate equipment cleaning procedures.
  - (3) Appropriate equipment setup and adjustment to minimize material usage and overspray.
- (g) The owner or operator shall maintain the following training records on site and available for inspection and review:
  - (1) A copy of the current training program.
  - (2) A list of all current personnel, by name, that are required to be trained and the dates they were trained and the date of the most recent refresher training.

Records of prior training programs and former personnel are not required to be maintained.

**326 IAC 6-3-2 (Process Operations)**

On June 12, 2002, revisions to 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes) became effective; this rule was previously referred to as 326 IAC 6-3 (Process Operations). As of the date this permit is being issued, these revisions have not been approved by EPA into the Indiana State Implementation Plan (SIP); therefore, the following requirement from the previous version of 326 IAC 6-3 (Process Operations), which has been approved into the SIP, remains an applicable requirement until the revisions to 326 IAC 6-3 are approved into the SIP and the condition is modified in a subsequent permit action.

Pursuant to 40 CFR 52, Subpart P, the particulate matter (PM) from each of the spray applicators in the fiberglass panel manufacturing Line C (003) shall be limited by the following:

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:

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

Under the rule revision, particulate from these spray applicators shall be controlled by dry filters, or equivalent control devices, and the Permittee shall operate the control device in accordance with manufacturer's specifications. This source currently uses dry filters to control overspray. Therefore, fiberglass panel manufacturing Line C is in compliance with 326 IAC 6-3-2.

**State Rule Applicability - Woodworking and Finishing Operations (002, 004, 006, 007, and 008)**

**326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)**

Particulate emissions from the operations 002, 004, 006, 007 and 008 shall be limited to less than the emission limits listed in the table below:

Unit ID	Max. Throughput Rate (lbs/hr)	Particulate Emission Limit (lbs/hr)
002	265	1.06
004	265	1.06
006	627	1.89
007	627	1.89
008	627	1.89

The pounds per hour limitation was 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:

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

According to the emission calculations (see Appendix A), the potential to emit PM after control from each of the woodworking operations 002, 004, 006, 007, and 008 is less than the limit above.

Therefore, these woodworking operations are in compliance with 326 IAC 6-3-2. The use of baghouses or dust collectors ensures compliance with these limits.

## Compliance Requirements

Permits issued under 326 IAC 2-7 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 conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. 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 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 this modification are as follows:

1. The spray applicators in fiberglass panel manufacturing Line C (003) have applicable compliance monitoring conditions as specified below:
  - (a) Visible emissions notations of the stacks exhausts of the spray applicators (stacks CEX1-CEX-5) shall be performed weekly during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Compliance Response Plan for these units shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.
  - (b) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters.
  - (c) Monthly inspections shall be performed of the coating emissions from the stack and the presence of overspray on the rooftops and the nearby ground.
  - (d) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

These monitoring conditions are necessary because these spray applicators must operate properly to ensure compliance with 40 CFR 52, Subpart P and 326 IAC 2-2 (PSD).

2. The woodworkina and finishing operations 002, 004, 006, 007, and 008 are controlled by baghouses or dust collectors. These operations have applicable compliance monitoring conditions as specified below:
  - (a) Visible emissions notations of the stacks exhausts of the woodworkinq and finishing operations (stacks S002, S004, and S006) shall be performed daily during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Compliance Response Plan for these units shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.
  - (b) The Permittee shall monitor and record the pressure drop for the baghouses and dust collectors at least once per week when operations 002, 004, 006, 007, and 008 are in operation. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouses or dust collectors shall be maintained within 2.0 and 4.0 inches of water, or a range established during the latest compliant stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside the above mention range.

These monitoring conditions are necessary because the baghouses and dust collectors with the woodworking and finishing operations 002, 004, 006, 007, and 008 must operate properly to ensure compliance with 326 IAC 2-2 (PSD) and 326 IAC 6-3-2 (Manufacturing Processes).

## Proposed Changes

The company's official name has been changed from "Fabwel Composites, Inc." to "Owens Corning Fabricating Solutions" throughout the whole permit. In addition, Office of Air Management (OAM) has been changed to "Office of Air Quality" (OAQ) throughout the entire permit.

### A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

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The Permittee owns and operates a fiberglass panel manufacturing operation.

Responsible Official:	<del>Mark Farver</del> <b>Plant Manager</b>
Source Address:	16710 Maple Drive, Goshen, Indiana 46526
Mailing Address:	16710 Maple Drive, Goshen, Indiana 46526
Phone Number:	( <del>219-574</del> ) 534-3447
SIC Code:	3089
County Location:	Elkhart
<del>County</del> <b>Source Location</b> Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program <del>Minor</del> <b>Major</b> Source under PSD Rules; Major Source, Section 112 of the Clean Air Act <b>Not 1 of 28 Source Categories</b>

### A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)]

[326 IAC 2-7-5(15)]

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This stationary source consists of the following emission units and pollution control devices:

- (a) One (1) fiberglass panel manufacturing line, identified as the "A" line **and Unit 001**, ~~coating a maximum of 3.91 molds per hour,~~ consisting of three (3) fiberglass panel reciprocators, each equipped with one (1) ~~air-assisted airless~~ **optimized spray or equivalent** gel coat application system and one (1) ~~airless~~ **non-atomized or equivalent** resin application system, with dry filters for overspray and exhausting at eleven (11) stacks, identified as SV-25 through SV-35 Only two (2) of the three (3) reciprocators may be operated simultaneously, with the third reciprocator used as a back-up. (Constructed in 1987)
- (b) One (1) fiberglass panel manufacturing line, identified as the "B" line **and Unit 001**, ~~coating a maximum of 4.5 molds per hour,~~ consisting of two (2) fiberglass panel reciprocators, each equipped with one (1) ~~air-assisted airless~~ **optimized spray or equivalent** gel coat application system and one (1) ~~air-assisted airless~~ **non-atomized or equivalent** resin application system, with dry filters for overspray and exhausting to twelve (12) stacks designated as SV-36 through SV-47. (Constructed in 1998)
- (c) One (1) fiberglass panel manufacturing line, identified as the "C" line **and Unit 003**, ~~coating a maximum of 4.5 molds per hour,~~ consisting of ~~one (1)~~ **two (2)** ~~air-assisted airless~~ **optimized spray or equivalent** gel coat application systems exhausting through five (5) stacks designated as CEX1-CEX5, and one (1) non-atomized **or equivalent** ~~spray~~-resin application system **with covered cure**, exhausting through five (5) stacks designated as CEX1-CEX5, with dry filters for overspray. (Constructed in 2000 **and modified in 2003**)
- (d) One (1) **Lauan** woodworking station **for lines A, B, and C, identified as Unit 002**, with a maximum raw material input rate of 265 pounds per hour, consisting of one (1) wide belt sander, ~~identified as 001,~~ one (1) table saw, **one (1) chop saw**, ~~identified as 002,~~ and one (1) panel saw, ~~identified as 003,~~ all controlled by one (1) dust collector, ~~identified as 004~~ **Honeyville baghouse, exhausting to stack S002. (Constructed in 1988)**
- (e) One (1) **standby** woodworking shop **equipment for lines A, B, and C, identified as Unit 004, with a maximum throughput rate of 265 pounds of raw material per hour**, consisting of one (1) wide belt sander, ~~identified as 005,~~ one (1) chop saw, ~~identified as 006,~~ ~~with one (1) cyclone~~ **controlled by one (1) Torit cyclone/dust collector portable baghouse, identified as 007 for control exhausting to stack S004. (Constructed in 1998 and 2000)**
- (f) One (1) **woodworking panel grinding/trimming station for lines A and B, identified as Unit 005**, with a maximum raw material input rate of 1,411 lb/hr, consisting of one (1) CNC panel saw, two (2) hand saws, and ~~eight (8)~~ **four (4)** hand grinders, ~~with controlled by one (1) bag house for control (CDC1),~~ **exhausting to stack S005. (Constructed in 1988 and 1998)**
- (g) ~~One (1) woodworking station, with a maximum raw material input rate of 1,423 lb/hr, consisting of two (2) wide belt side sanders and two (2) table saws, with one (1) baghouse for control (CDC2).~~
- (h) ~~One (1) sandblast cabinet, identified as 008, with a maximum aluminum oxide flow rate of 380 pounds per hour~~
- (ig) One (1) **panel CNC saw for line C, identified as 010 and Unit 006, with a maximum throughput rate of 627 pounds of raw material per hour**, controlled by one (1) **UAS**

dust collector (**Dust Hog**) and one (1) UAS interior baghouse, exhausting to stack **S006. (Constructed in 2000)** ~~designated as 011.~~

- (jh) ~~Four (4) fiberglass/wood~~ **Two (2) panel grinding machines for line C, identified as Unit 007, each with a maximum raw material input rate of 627 pounds per hour, controlled by one (1) RUWAC portable drum dust collector, one (1) UAS dust collector (Dust Hog), and one (1) UAS interior baghouse, exhausting to stack S006. (Constructed in 2000)**
- (i) **One (1) vertical saw for Line C, identified as 008, with a maximum throughput rate of 627 pounds of raw materials per hour, controlled by one (1) UAS dust collector (Dust Hog) and one (1) UAS interior baghouse, and exhausting to stack S006. (Constructed in 2002)**

## SECTION D.1 FACILITY OPERATION CONDITIONS

### Facility Description [326 IAC 2-7-5(15)]

- (a) One (1) fiberglass panel manufacturing line, identified as the "A" line **and Unit 001**, ~~coating a maximum of 3.91 molds per hour~~, consisting of three (3) fiberglass panel reciprocators, each equipped with one (1) ~~air-assisted airless~~ **optimized spray or equivalent** gel coat application system and one (1) ~~airless non-atomized or equivalent~~ resin application system, with dry filters for overspray and exhausting at eleven (11) stacks, identified as SV-25 through SV-35. Only two (2) of the three (3) reciprocators may be operated simultaneously, with the third reciprocator used as a back-up. (Constructed in 1987)
- (b) One (1) fiberglass panel manufacturing line, identified as the "B" line **and Unit 001**, ~~coating a maximum of 4.5 molds per hour~~, consisting of two (2) fiberglass panel reciprocators, each equipped with one (1) ~~air-assisted airless~~ **optimized spray or equivalent** gel coat application system and one (1) ~~air-assisted airless non-atomized or equivalent~~ resin application system, with dry filters for overspray and exhausting to twelve (12) stacks designated as SV-36 through SV-47. (Constructed in 1998)
- (c) One (1) fiberglass panel manufacturing line, identified as the "C" line **and Unit 003**, ~~coating a maximum of 4.5 molds per hour~~, consisting of ~~one (1) two (2)~~ ~~air-assisted airless~~ **optimized spray or equivalent** gel coat application systems exhausting through five (5) stacks designated as CEX1-CEX5, and one (1) non-atomized ~~or equivalent spray-resin~~ application system **with covered cure**, exhausting through five (5) stacks designated as CEX1-CEX5, with dry filters for overspray. (Constructed in 2000 **and modified in 2003**)

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

### D.1.2 New Source Toxics Control [326 IAC 2-4.1-1] [326 IAC 8-1-6]

- (a) Pursuant to the MACT determination under 326 IAC 4.1-1 and CP No. 039-9288-00002, issued on August 6, 1998, the operating conditions for the fiberglass panel manufacturing line, identified as the "B" line, shall be the following:
- (1) Use of resins and gel coats shall be limited such that the potential to emit (PTE) volatile organic HAP from resins and gel coats from lines "A" and "B" shall be limited to less than 249 tons per twelve (12) consecutive month period **with compliance determined at the end of each month**, ~~rolled on a monthly basis~~ such that the requirements of 326 IAC 2-2 (PSD Rules) do not apply. The VOC usage limit for line "B" is required as a component of the MACT determination and compliance with this limit shall be determined based upon the following criteria:
- (B) Until such time that new emissions information is made available by U.S. EPA in its AP-42 document or other U.S. EPA-approved form, emission factors shall be taken from the following reference approved by IDEM. OAQ: "Unified Emission Factors for Open Molding of Composites, ~~April 20, 1999~~ **July 23, 2001**". The emission factors used for monomers that is styrene shall not exceed 32.3% styrene emitted per weight of gel coat applied and 17.7% styrene emitted per weight of resin applied. For the purposes of these emission calculations, monomer in resins and gel coats that is not styrene or methyl methacrylate shall be considered as styrene on an equivalent weight basis.

- (b) Pursuant to the MACT determination under 326 IAC 4.1-1 and **326 IAC 8-1-6 (BACT)** and ~~CP No. 039-12284-00002, issued on October 13, 2000,~~ the operating conditions for the fiberglass panel manufacturing line, identified as the "C" line, shall be the following:
- (1) Use of resins and gel coats that contain styrene shall be limited such that the potential to emit (PTE) volatile organic HAP from use of such resins and gel coats only shall be less than ~~400~~ **129.6** tons per twelve (12) consecutive month period **with compliance determined at the end of each month**. Compliance with this limit shall be determined based upon the following criteria:
- (B) The emission factors approved for use by IDEM, OAQ shall be taken from the following reference: "Unified Emission Factors for Open Molding of Composites," Composites Fabricators Association, **July 23, 2001**. ~~April 1999, with the exception of the emission factors for controlled spray application. This reference is included with this permit. For HAP-emitting operations not addressed by this reference, emission factors shall be taken from U.S. EPA's AP-42 document.~~ For the purposes of these emission calculations, HAP monomer in resins and gel coats that is not styrene or methyl methacrylate shall be considered as styrene on an equivalent weight basis.
- (C) The HAP monomer content of resins and gel coats used shall be limited to the following or their equivalent on an emissions mass basis:

Type of Gel Coat or Resin	HAP Monomer Content, % by weight
Production <sup>1</sup> Gel Coat	<del>37</del> <b>36</b>
Production Resin	35

<sup>1</sup>Production refers to the manufacture of parts.

HAP monomer contents shall be calculated on a neat basis, which means excluding any filler. Compliance with these HAP monomer content limits shall be demonstrated on a monthly basis.

~~Gel coats or resins with HAP monomer contents lower than those specified in the table in this subsection or additional emission reduction techniques approved by IDEM, OAQ may be used to offset the use of gel coats or resins with HAP monomer contents higher than those specified in the table in this subsection. This is allowed to meet the HAP monomer content limits for resins and gel coats and shall be calculated on an equivalent emissions mass basis as shown below:~~

~~(Emissions from higher than compliant HAP monomer content resin or gel coat) - (Emissions from compliant resin or gel coat) # (Emissions from compliant resin or gel coat) - (Emissions from lower than compliant HAP monomer content resin or gel coat and/or using other emission reduction techniques).~~

~~Where: Emissions, lb or ton = M (mass of resin or gel coat used, lb or ton) \* EF (HAP monomer emission factor for resin or gel coat used, %);~~

~~EF, HAP monomer emission factor = emission factor, expressed as pounds (lbs) HAP emitted per ton of resin/gel coat processed, which is indicated by the HAP monomer content, method of application, and other emission reduction techniques for each gel coat and resin used.~~

- (D) Non-atomized spray **or equivalent** application technology shall be used to apply unfilled production resins. Non-atomized spray application technology includes flow coaters, flow choppers, pressure-fed rollers, or other non-spray applications of a design and specifications approved by IDEM, OAQ.

**D.1.3 Work Practice Standards for Reinforced Plastic Composites Fabrication [326 IAC 20-25-4]**

Pursuant to 326 IAC 20-25-4, the following work practice standards shall be implemented:

- (a) Non-atomizing spray equipment shall not be operated at pressures that atomize the material during the application process.
- (b) Except for mixing containers as described in item (g), HAP containing materials shall be kept in a closed container when not in use.
- (c) Solvents sprayed during cleanup and resin changes shall be directed into solvent collection containers.
- (d) Solvent collection containers shall be kept closed when not in use.
- (e) Clean-up rags with solvent shall be stored in closed containers.
- (f) Closed containers shall be used for the storage of the following:
  - (1) All production and tooling resins that contain HAPs.
  - (2) All production and tooling gel coats that contain HAPs.
  - (3) Waste resins and gel coats that contain HAPs.
  - (4) Cleaning materials, including waste cleaning materials.
  - (5) Other materials that contain HAPs.
- (g) All resin and gel coat mixing containers with a capacity equal to or greater than fifty-five (55) gallons must have a cover with no visible gaps in place at all times except when material is being added to or removed from a container, or when mixing or pumping equipment is being placed in or removed from a container.

**D.1.4 Operator Training for Reinforced Plastic Composites Fabrication [326 IAC 20-25-8]**

Pursuant to 326 IAC 20-25-8, all new and existing personnel, including contract personnel, who are involved in resin and gel coat spraying and spray-like applications (for example, those applications that could result in excess emissions if performed improperly) shall be trained according to the following schedule:

- (a) All personnel hired after March 7, 2001 shall be trained within fifteen (15) days of hiring.
- (b) All personnel hired before March 7, 2001 shall be trained or evaluated by a supervisor within thirty (30) days of the start of operation.
- (c) To ensure training goals listed in subsection (b) are maintained, all personnel shall be given refresher training annually.

- (d) **Personnel who have been trained by another owner or operator subject to 326 IAC 20-25 are exempt from subdivision (a) if written documentation that the employee's training is current is provided to the new employer.**
- (e) **If the result of an evaluation shows that training is needed, such training shall occur within fifteen (15) days of the evaluation.**
- (f) **The lesson plans shall cover, for the initial and refresher training, at a minimum, all of the following topics:**
  - (1) **Appropriate application techniques.**
  - (2) **Appropriate equipment cleaning procedures.**
  - (3) **Appropriate equipment setup and adjustment to minimize material usage and overspray.**
- (g) **The owner or operator shall maintain the following training records on site and available for inspection and review:**
  - (1) **A copy of the current training program.**
  - (2) **A list of all current personnel, by name, that are required to be trained and the dates they were trained and the date of the most recent refresher training. Records of prior training programs and former personnel are not required to be maintained.**

**D.1.35 Particulate Matter (PM) ~~[326 IAC 6-3-2(e)]~~ [40 CFR 52, Subpart P]**

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- (a) Pursuant to CP No. 039-4937-00002, issued on March 21, 1996 **and 40 CFR 52, Subpart P**, the particulate matter (PM) from the fiberglass panel manufacturing line, identified as the "A" line, shall be limited by the following:
- (b) Pursuant to CP No.039-9288-00002, issued on August 6, 1998 **and 40 CFR 52, Subpart P**, the fiberglass panel manufacturing line, identified as the "B" line, ~~and the woodworking station, woodworking shop, CNC saw, sandblast cabinet and grind machines listed in Section D.2~~ shall be limited by the following:
- (c) Pursuant to SPM No.039-12284-00002, issued on October 13, 2000 **and 40 CFR 62, Subpart P**, the particulate matter emissions from the fiberglass panel manufacturing line, identified as the "C" line, shall not exceed 4.08 lb/hr based on the following equation:

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

**D.1.46 Preventive Maintenance Plan [326 IAC 2-7-5(13)]**

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**D.1.57 Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAPs) [326 IAC 8-1-4(a)] [326 IAC 8-1-2(a)]**

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Compliance with the ~~VOC~~ **volatile organic HAP** content and usage limitations contained in Condition D.1.2 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) using formulation data supplied by the coating manufacturer. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

~~D.1.6 VOC Emissions~~

~~Compliance with the VOC usage limitations in Condition D.1.2 shall be demonstrated within 30 days of the end of each month based on the total volatile organic compound usage for the most recent twelve (12) month period.~~

**D.1.8 Emissions Standards for Reinforced Plastics Composites Fabricating [326 IAC 20-25-3]**

Compliance with the limitations contained in Condition D.1.2 may be demonstrated using monthly emission averaging within each resin or gel coat application category by the use of resins or gel coats with HAP monomer contents lower than the limits specified, and/or additional emission reduction techniques approved by IDEM, OAQ.

Examples of emission reduction techniques include, but are not limited to, using non-atomized application to apply resins or gel coats within a category that does not require non-atomized application, lower monomer content resins and gel coats, vapor suppression, vacuum bagging, controlled spraying, or installing a control device. This is allowed to meet the HAP monomer content limits for resins and gel coats within each category, and shall be calculated on an equivalent emissions mass basis monthly to demonstrate compliance as shown below:

For Averaging within a category:

$$Em_A \leq (M_R * E_a)$$

Where:

$M_R$  = Total monthly mass of material within each category  
 $E_a$  = Emission factor for each material based on allowable monomer content and allowable application method for each category.  
 $Em_A$  = Actual monthly emissions from all materials used within a category based on material specific emission factors, emission reduction techniques and emission controls

*Units: mass = tons  
emission factor = lbs of monomer per ton of resin or gel coat  
emissions = lbs of monomer*

Note: Fillers may not be included when averaging.

**D.1.79 Particulate Matter (PM)**

**D.1.810 Visible Emissions Notations**

- (a) ~~Daily~~ **Weekly** visible emission notations of all exhaust to the atmosphere from the line "A", line "B", and line "C" fiberglass panel manufacturing lines' stack exhaust shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

**D.1.911 Monitoring**

- (a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters, ~~To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the line "A", line "B" stacks, and line "C" stacks identified as SV-25 through SV-47, and CEX1-CEX5, respectively,~~ when the lines are in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. 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.

- (b) Monthly inspections shall be performed of the ~~coating~~**particulate** emissions from the stack and the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when a noticeable change in overspray emission, or evidence of overspray emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. 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.

#### D.1.4012 Record Keeping Requirements

- (a) To document compliance with Condition D.1.2, the Permitted shall maintain records in accordance with (1) through ~~(87)~~ below. Records maintained for (1) through ~~(87)~~ shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC and ~~monomer~~ **HAP** usage limits and/or the VOC and monomer ~~emission~~ **content** limits established in Condition D.1.2.
- (3) The volume weighted ~~VOC~~ **volatile organic HAP** content of the coatings used for each month;
- (5) The total ~~VOC~~ **volatile organic HAP** usage for each month;
- (6) The weight of ~~VOC~~ **volatile organic HAP** emitted for each compliance period;  
**and**
- ~~(7) The total monomer usage for each month; and~~
- ~~(87) Method of application and other emission reduction techniques for each resin and gel coat used for each month.~~
- (b) To document compliance with Conditions ~~D.1.3, D.1.8 and D.1.9~~ **D.1.11**, the Permitted shall maintain a log of ~~daily overspray observations~~, daily and weekly inspections **of the filters**, and those additional inspections prescribed by the Preventive Maintenance Plan.
- (c) **To document compliance with Condition D.1.10, the Permittee shall maintain records of weekly visible emission notations of the spray applicators' stack exhausts.**
- (d) **To document compliance with Condition D.1.4, the Permittee shall maintain the following training records:**
- (1) **A copy of the current training program.**
- (2) **A list of all current personnel, by name, that are required to be trained and the dates they were trained and the date of the most recent refresher training. Records of prior training programs and former personnel are not required to be maintained.**
- (e) **All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.**

#### D.1.4413 Reporting Requirements

## SECTION D.2

## FACILITY OPERATION CONDITIONS

### Facility Description [326 IAC 2-7-5(15)]:

- (ad) One (1) **Lauan** woodworking station for lines A, B, and C, identified as Unit 002, with a maximum raw material input rate of 265 pounds per hour, consisting of one (1) wide belt sander, identified as 001, one (1) table saw, one (1) **chop saw**, identified as 002, and one (1) panel saw, identified as 003, all controlled by one (1) dust collector, identified as 004 **Honeyville baghouse, exhausting to stack S002. (Constructed in 1988)**
- (e) One (1) **standby** woodworking shop equipment for lines A, B, and C, identified as Unit 004, with a maximum throughput rate of 265 pounds of raw material per hour, consisting of one (1) wide belt sander, identified as 005, one (1) chop saw, identified as 006, with one (1) cyclone controlled by one (1) **Torit clyone/dust collector portable baghouse, identified as 007 for control exhausting to stack S004. (Constructed in 1998 and 2000)**
- (f) One (1) woodworking **panel grinding/trimming** station for lines A and B, identified as Unit 005, with a maximum raw material input rate of 1,411 lb/hr, consisting of one (1) CNC panel saw, two (2) hand saws, and ~~eight (8)~~ **four (4)** hand grinders, with controlled by one (1) bag house for control (CDC1), **exhausting to stack S005. (Constructed in 1988 and 1998)**
- ~~(g) One (1) woodworking station, with a maximum raw material input rate of 1,423 lb/hr, consisting of two (2) wide belt side sanders and two (2) table saws, with one (1) baghouse for control (GDC2).~~
- ~~(h) One (1) sandblast cabinet, identified as 008, with a maximum aluminum oxide flow rate of 380 pounds per hour.~~
- (ig) One (1) **panel CNC saw for line C**, identified as 010 and Unit 006, with a maximum throughput rate of 627 pounds of raw material per hour, controlled by one (1) UAS dust collector (**Dust Hog**) and one (1) UAS interior baghouse, exhausting to stack S006. **(Constructed in 2000)** ~~designated as 011.~~
- (jh) ~~Four (4) fiberglass/wood~~ **Two (2) panel grinding machines for line C, identified as Unit 007**, each with a maximum raw material input rate of 627 pounds per hour, **controlled by one (1) RUWAC portable drum dust collector, one (1) UAS dust collector (Dust Hog), and one (1) UAS interior baghouse, exhausting to stack S006. (Constructed in 2000)**
- (i) One (1) vertical saw for Line C, identified as 008, with a maximum throughput rate of 627 pounds of raw materials per hour, controlled by one (1) UAS dust collector (**Dust Hog**) and one (1) UAS interior baghouse, and exhausting to stack S006. **(Constructed in 2002)**

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

### D.2.1 Particulate Matter (PM) [326 IAC 6-3-2(e)]

- ~~(a) Pursuant to CP No. 039-9288-00002, issued on August 6, 1998, the woodworking station, woodworking shop, CNC saw, sandblast cabinet and grind machines and the fiberglass panel manufacturing line, identified as the "B" line listed in Section D.1, shall be limited by the following:~~

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:

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

- (1) the allowable PM emission rate from the woodworking station shall not exceed 1.06 pounds per hour when operating at a total process weight rate of 627 pounds per hour.
- (2) the allowable PM emission rate from the CNC routers shall not exceed 1.88 pounds per hour when operating at a total process weight rate of 265 pounds per hour.
- (3) the allowable PM emission rate from the grinder machines shall not exceed 1.88 pounds per hour when operating at a total process weight rate of 627 pounds per hour.
- (4) the allowable PM emission rate from the sandblast cabinet shall not exceed 1.35 pounds per hour when operating at a total process weight rate of 380 pounds per hour.

(b) Pursuant to SPM No. 039-12284-00002, issued on October 13, 2000, the allowable particulate matter (PM) emissions shall be limited to 3.25 lb/hr for baghouse GDC1 and shall be limited to 3.26 lb/hr for baghouse GDC2 based on the following equation:

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

Particulate emissions from the operations 002, 004, 005, 006, 007 and 008 shall be limited to the emission limits listed in the table below:

Unit ID	Max. Throughput Rate (lbs/hr)	Particulate Emission Limit (lbs/hr)
002	265	1.06
004	265	1.06
005	1,411	3.25
006	627	1.89
007	627	1.89
008	627	1.89

The pounds per hour limitation was calculated with 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:

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

#### D.2.2 PSD Minor Modification Limits [326 IAC 2-2]

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Pursuant to 326 IAC 2-2 (PSD), the PM and PM10 emissions from operations 002, 004, 006, 007, and 008 shall not exceed the emissions limits listed in the table below:

Unit ID	PM10 Emission Limit (lbs/hr)	PM Emission Limit (lbs/hr)
002	0.21	0.42
004	0.92	1.80
006, 007 and 008	1.14	2.24

This is equivalent to 9.94 tons/yr of PM10 emissions and 19.5 tons/yr of PM emissions. Combined with the PM/PM10 emissions from fiberglass panel manufacturing line C (003), the particulate emissions from this Significant Source Modification #039-17785-00002, are limited to less than 15 tons/yr for PM10 and less than 25 tons/yr for PM. Therefore, the requirements of 326 IAC 2-2 (PSD) are not applicable.

#### D.2.23 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

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A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the ~~woodworking~~ operations 002, 004, 005, 006, 007, and 008, stations, ~~woodworking shop, CNC saw, sandblast cabinet and grind machines~~ and any control devices.

#### D.2.34 Particulate Matter (PM) and PM10

---

The dust collectors and baghouses for PM and PM10 control shall be in operation and control emissions from the ~~woodworking~~ operations 002, 004, 005, 006, 007 and 008 stations, ~~woodworking shop, CNC saw, sandblast cabinet and grind machines~~ at all times that ~~they~~ these units are in operation.

#### D.2.45 Visible Emissions Notations

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- (a) Daily visible emission notations from the baghouses, dust collectors/cyclone for the ~~woodworking and finishing~~ stations, ~~woodworking shop, CNC saw, sandblast cabinet and grind machines~~ of the operations 002, 004, 005, 006, 007, and 008 stacks' exhausts shall be performed ~~once per working shift and shall be performed~~ during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

#### D.2.56 Parametric Monitoring

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The Permittee shall record the total static pressure drop across the ~~bughouses~~ baghouses and dust collectors used in conjunction with the ~~woodworking and finishing~~ operations 002, 004, 005, 006, 007, and 008, identified as CDC1, CDC2, 004, 007, and 011 at least once a week and when the baghouses for the ~~woodworking~~ stations, ~~woodworking shop, CNC saw, sandblast cabinet and grind machines~~ these ~~woodworking and finishing~~ operations are in operation and venting to the atmosphere. ~~The baghouse used in conjunction with the woodworking process, at least once weekly when the woodworking processes are in operation when venting to the atmosphere.~~ Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouses shall be maintained within the range of 2.0 and 4.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for anyone reading.

#### D.2.67 Baghouse Inspections

An inspection shall be performed each calendar quarter of all bags controlling the ~~woodworking-operations 002, 004, 005, 006, 007, and 008 station, woodworking shop, CNC saw, sandblast cabinet and grind machines~~ when venting to the atmosphere. ~~A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter.~~ Inspections are optional when venting to the indoors. **Inspections required by this condition shall not be performed in consecutive months.** All defective bags shall be replaced.

#### D.2.7 Cyclone Inspections

An inspection shall be performed each calendar quarter of the cyclone ~~007~~ controlling the ~~woodworking shop~~ when venting to the atmosphere. A cyclone inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors.

#### D.2.9 Cyclone Failure Detection

In the event that cyclone failure has been observed:

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.2.409 Record Keeping Requirements

- (a) To document compliance with Condition D.2.35, the Permittee shall maintain daily visible emission notations of the woodworking stations stack exhaust.
- (b) To document compliance with Conditions ~~D.2.4, D.2.5, D.2.6, D.2.7 and D.2.8~~, the Permittee shall maintain the following:
  - (1) **Daily Weekly** records of the following operational parameters **total static pressure drop** during normal operation when venting to the atmosphere.:
    - (A) ~~Inlet and outlet differential static pressure; and~~
    - (B) ~~Cleaning cycle: frequency and differential pressure.~~
  - (2) ~~Documentation of all response steps implemented, per event.~~
  - (3) ~~Operation and preventive maintenance logs, including work purchases orders, shall be maintained.~~
  - (4) ~~Quality Assurance/Quality Control (QA/QC) procedures.~~
  - (5) ~~Operator standard operating procedures (SOP).~~
  - (6) ~~Manufacturer's specifications or its equivalent.~~
  - (7) ~~Equipment "troubleshooting" contingency plan.~~
  - (8) ~~Documentation of the dates vents are redirected.~~
- (c) To document compliance with Condition D.2.7, the Permittee shall maintain records of the results of the inspections required under Condition D.2.7.

- (ed) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

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

**PART 70 OPERATING PERMIT  
CERTIFICATION**

Source Name: ~~Fabwell Composites, Inc.~~ **Owens Corning Fabricating Solutions**  
Source Address: 16710 Maple Drive, Goshen, Indiana 46526  
Mailing Address: 16710 Maple Drive, Goshen, Indiana 46526  
Part 70 Permit No.: 039-6091-00002

**This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.**

Please check what document is being certified:

- 9 Annual Compliance Certification Letter
- 9 Test Result (specify) \_\_\_\_\_
- 9 Report (specify) \_\_\_\_\_
- 9 Notification (specify) \_\_\_\_\_
- 9 Other (specify) \_\_\_\_\_

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE BRANCH  
P.O. Box 6015  
100 North Senate Avenue  
Indianapolis, Indiana 46206-6015  
Phone: 317-233-5674  
Fax: 317-233-5967**

**PART 70 OPERATING PERMIT  
EMERGENCY/DEVIATION OCCURRENCE REPORT**

Source Name: ~~Fabwell Composites, Inc.~~ **Owens Corning Fabricating Solutions**  
Source Address: 16710 Maple Drive, Goshen, Indiana 46526  
Mailing Address: 16710 Maple Drive, Goshen, Indiana 46526  
Part 70 Permit No.: 039-6091-00002

**This form consists of 2 pages**

**Page 1 of 2**

- 9 This is an emergency as defined in 326 IAC 2-7-1(12)
- The Permittee must notify the Office of Air Quality (OAQ), within four (4) business hours (1-800-451-6027 or 317-233-5674, ask for Compliance Section); and
  - The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-5967), and follow the other requirements of 326 IAC 2-7-16.

If any of the following are not applicable, mark N/A

Facility/Equipment/Operation:

Control Equipment:

Permit Condition or Operation Limitation in Permit:

Description of the Emergency:

Describe the cause of the Emergency:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF AIR QUALITY  
 Compliance Data Section**

**Part 70 Quarterly Report**

Source Name: ~~Fabwell Composites, Inc.~~ **Owens Corning Fabricating Solutions**  
 Source Address: 16710 Maple Drive, Goshen, Indiana 46526  
 Mailing Address: 16710 Maple Drive, Goshen, Indiana 46526  
 Part 70 Permit No.: 039-6091-00002  
 Facility: fiberglass panel manufacturing lines, identified as line "A" and line "B".  
 Parameter: VOCs  
 Limit: VOC emissions less than 249 tons per twelve (12) consecutive month period **with compliance determined at the end of each month.**

YEAR: \_\_\_\_\_

Month	Usage This Month (tons/month)	Usage for Previous 11 Months (tons)	Usage for Previous 12 Month Period (tons)	Emissions This Month (tons/month)	Emission For Previous 11 Months (tons)	Emissions for Previous 12 Month Period (tons)
Month 1						
Month 2						
Month 3						

- 9 No deviation occurred in this quarter.
- 9 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.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF AIR QUALITY  
 Compliance Data Section**

**Part 70 Quarterly Report**

Source Name: ~~Fabwell Composites, Inc.~~ **Owens Corning Fabricating Solutions**  
 Source Address: 16710 Maple Drive, Goshen, Indiana 46526  
 Mailing Address: 16710 Maple Drive, Goshen, Indiana 46526  
 Part 70 Permit No.: 039-~~12284~~ **6091**-00002  
 Facility: One (1) fiberglass panel manufacturing line, identified as line "C".  
 Parameter: VOC/HAP PTE  
 Limit: VOC emissions less than ~~400~~ **129.6** tons per twelve (12) consecutive month period  
**with compliance determined at the end of each month.**

YEAR: \_\_\_\_\_

Month	Usage This Month (tons/month)	Usage for Previous 11 Months (tons)	Usage for Previous 12 Month Period (tons)	Emissions This Month (tons/month)	Emission For Previous 11 Months (tons)	Emissions for Previous 12 Month Period (tons)
Month 1						
Month 2						
Month 3						

9 No deviation occurred in this quarter.

9 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.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF AIR QUALITY  
 Compliance Data Section**

**PART 70 OPERATING PERMIT  
 QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT**

Source Name: ~~Fabwell Composites, Inc.~~ **Owens Corning Fabricating Solutions**  
 Source Address: 16710 Maple Drive, Goshen, Indiana 46526  
 Mailing Address: 16710 Maple Drive, Goshen, Indiana 46526  
 Part 70 Permit No.: 039-12284 ~~6091~~-00002

Months: \_\_\_\_\_ to \_\_\_\_\_ Year: \_\_\_\_\_

This report shall be submitted quarterly based on a calendar year. Any deviation from the requirements, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. Deviations that are required to be reported by an applicable requirement shall be reported according to the schedule stated in the applicable requirement and do not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".	
9 NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.	
9 THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD	
<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	
<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	

## **Conclusion**

The construction of this proposed modification shall be subject to the conditions of the proposed Part 70 Significant Source Modification No. 039-17785-00002. The operation of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Permit Modification No. 039-17700-00002.

**Appendix A: Emission Calculations**  
**Reinforced Plastics and Composites Open Molding Operations**  
**HAPs Emissions**  
**From Fiberglass Panel Manufacturing Line C (#003)**

**Company Name: Owens Corning Fabricating Solutions**  
**Address: 16710 Maple City Dr., Goshen, IN 46526**  
**SSM: 039-17785-00002**  
**Reviewer: ERG/YC**  
**Date: August 19, 2003**

Application Method	Coatings	Density (lbs/hr)	Max. Production Rate (unit/hr)	Max. Coating Usage (gal/unit)	Maximum Usage (lbs/hr)	Weight % Styrene	*Emission Factor for Styrene (lbs/ton)	PTE of Styrene (tons/yr)	Weight % MMA	*Emission Factor for MMA (lbs/ton)	PTE of MMA (tons/yr)	Weight % MEK	**Emission Factor for MEK (lbs/ton)	PTE of MEK (tons/yr)
Gelcoat Controlled Spray Application with Covered Cure (without rollout)	Gel Coat	10.25	4.50	5.10	235	36.0%	143	73.7	4.0%	60	30.9	0.0%	0	0.00
Mechanical Atomized Controlled Spray with Covered Cure (without roll-out)	Resin	9.25	4.50	11.9	495	35.0%	59	64.4	0.0%	0	0.00	0.0%	0	0.00
	Catalyst	9.75	4.50	0.21	8.99	0.0%	0	0.0	0.0%	0	0.00	1.0%	20	0.39
<b>Total</b>								<b>138</b>			<b>30.9</b>			<b>0.39</b>

\* The emission factors for resin and gel coat are based on "Unified Emission Factors for Opening Molding of Composites" (Jul 23, 2001) and the unit is pounds of HAP per ton resin/gel coat processed.

\*\*The emission factor for MEK = 2000 lb/ton x Weight % MEK (Assume all the MEK contained in the catalyst evaporates).

**Total Potential to Emit HAPs =**

**169 tons/yr**

**METHODOLOGY**

Potential to Emit HAPs (tons/yr) = Max. Usage (lbs/hr) x 8760 hr/yr x 1 ton/2000 lbs x Emission Factor (lb/ton) x 1 tons/2000 lbs

**Appendix A: Emission Calculations**  
**Reinforced Plastics and Composites Open Molding Operations**  
**VOC and PM/PM10 Emissions**  
**From Fiberglass Panel Manufacturing Line C (#003)**

**Company Name: Owens Corning Fabricating Solutions**  
**Address: 16710 Maple City Dr., Goshen, IN 46526**  
**SSM: 039-17785-00002**  
**Reviewer: ERG/YC**  
**Date: August 19, 2003**

Application Method	Coatings	Density (lbs/gal)	Weight % VOC	Max. Production Rate (unit/hr)	Max. Coating Usage (gal/unit)	Maximum Usage (lbs/hr)	*VOC Emission Factor (lbs/ton)	PTE of VOC (lbs/hr)	PTE of VOC (lbs/day)	PTE of VOC (tons/yr)	**PTE of PM/PM10 before Control (lbs/hr)	**PTE of PM/PM10 before Control (tons/yr)	***Transfer Efficiency	***PM/PM10 Control Efficiency	PTE of PM/P10 after Control (lbs/hr)	PTE of PM/P10 after Control (tons/yr)
Gelcoat Controlled Spray Application with Covered Cure (without rollout)	Gel Coat	10.25	40.0%	4.5	5.10	235	203	23.9	573	105	1.4	6	99%	76%	0.34	1.48
Mechanical Atomized Controlled Spray with Covered Cure (without roll-out)	Resin	9.25	35.0%	4.5	11.9	495	59	14.7	353	64.4	3.22	14.10	99%	76%	0.77	3.38
	Catalyst	9.75	1.0%	4.5	0.21	8.99	20	0.09	2.16	0.39	0.00	0.00	100%	0%	0.00	0.00
<b>Total</b>	<b>Total</b>									<b>169</b>		<b>20.3</b>				<b>4.87</b>

\* The emission factors for gel coat and resin are sum of the emission factors for styrene and MMA in page 1 of TSD Appendix A.

The VOC emission factor for catalyst = 2000 lb/ton x Weight % VOC (assume that all the VOCs contained in the catalyst evaporate).

\*\* Assume all the PM emissions equal PM10 emissions.

\*\*\* The transfer efficiency and control efficiency are from the "Draft Guide to the Estimation and Permitting of PM from the Manufacture of Reinforced Plastic Composites" by CFA in August, 2001.

The PM control efficiency includes 85% capture efficiency and 95% control efficiency for dry filters.

#### METHODOLOGY

Max. Usage (lbs/hr) = Max. Production Rate (unit/hr) x Max. Coating Usage (gal/unit) x Density (lbs/gal)

PTE of VOC (lbs/hr) = Max. Usage (lbs/hr) x 1 ton/2000 lbs x Emission Factor (lbs/ton)

PTE of VOC (lbs/day) = Max. Usage (lbs/hr) x 1 ton/2000 lbs x Emission Factor (lbs/ton) x 24 hr/day

PTE of VOC (tons/yr) = Max. Usage (lbs/hr) x 1 ton/2000 lbs x Emission Factor (lbs/ton) x 8760 hr/yr x 1 ton/2000 lbs

PTE of PM/PM10 before Control (lbs/hr) = Max. Usage (lbs/hr) x (1 - Weight % VOC) x (1 - Transfer Efficiency)

PTE of PM/PM10 before Control (tons/yr) = Max. Usage (lbs/hr) x (1 - Weight % VOC) x (1 - Transfer Efficiency) x 8760 hr/yr x 1 ton/2000 lbs

PTE of PM/PM10 after Control (lbs/hr) = Potential PM/PM10 (lbs/hr) x (1 - PM/PM10 Control Efficiency)

PTE of PM/PM10 after Control (tons/yr) = Potential PM/PM10 (lbs/hr) x (1 - PM/PM10 Control Efficiency) x 8760 lbs/yr x 1 ton/2000 lbs

**Appendix A: Emission Calculations**  
**PM10 and PM10 Emissions**  
**From Woodworking and Finishing Operations (Units 002, 004, 006, 007, and 008)**

**Company Name: Owens Corning Fabricating Solutions**  
**Address: 16710 Maple City Dr., Goshen, IN 46526**  
**SSM: 039-17785-00002**  
**Reviewer: ERG/YC**  
**Date: August 19, 2003**

Unit ID	Control Device	Outlet Grain Loading (gr/dscf)	Maximum Air Flow Rate (scfm)	Control Efficiency (%)	PTE of PM/PM10 after Control (lbs/hr)	PTE of PM/PM10 after Control (tons/yr)	PTE of PM/PM10 before Control (lbs/hr)	PTE of PM/PM10 before Control (tons/yr)
002	Baghouse	0.0024	7,900	99.0%	0.16	0.71	16.3	71.2
004	Dust Collector	0.0402	2,000	99.0%	0.69	3.02	68.9	302
006 and 008	Dust Collector	0.0065	5,500	99.0%	0.31	1.34	30.6	134
007	Baghouse	0.3584	180	99.9%	0.55	2.42	553.0	2422
<b>Total</b>						<b>7.49</b>		<b>2929</b>

Assume all PM emissions equal PM10 emissions.

**Methodology**

PTE of PM/PM10 after Control (lbs/hr) = Grain Loading (gr/dscf) x Max. Air Flow Rate (scfm) x 60 mins/hr x 1/7000 lb/gr

PTE of PM/PM10 after Control (tons/yr) = Grain Loading (gr/dscf) x Max. Air Flow Rate (scfm) x 60 mins/hr x 1/7000 lb/gr x 8760 hr/yr x 1 ton/2000 lbs

PTE of PM/PM10 before Control (lbs/hr) = PTE of PM/PM10 after Control (lbs/hr) / (1-Control Efficiency)

PTE of PM/PM10 before Control (tons/yr) = PTE of PM/PM10 after Control (tons/yr) / (1-Control Efficiency)

## Appendix B

### BEST AVAILABLE CONTROL TECHNOLOGY (BACT) DETERMINATION

#### Source Background and Description

Source Name:	Owens Corning Fabricating Solutions
Source Location:	16710 Maple City Drive, Goshen, Indiana 46526
County:	Elkhart
SIC Code:	3089
Operating Permit No.:	T039-6091-00002
Operating Permit Issuance Date:	December 27, 2000
Significant Source Modification No.:	039-17785-00002
Significant Permit Modification No.:	039-17700-00002
Permit Reviewer:	ERG/YC

The Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) has performed the following Best Available Control Technology (BACT) review for a Part 70 Significant Source Modification and a Part 70 Significant Permit Modification to an existing fiberglass panel manufacturing plant, owned and operated by Owens Corning Fabricating Solutions (formerly Fabwel Composites, Inc.), located at 16710 Maple City Drive, Goshen, Indiana 46526. This modification includes an increase in VOC emission limits for the following emission units:

- (a) One (1) fiberglass panel manufacturing line, identified as the "C" line and Unit 003, consisting of two (2) air assisted airless gel coat application systems and one (1) controlled mechanical atomized spray resin application system with covered cure, exhausting through five (5) stacks designated as CEX1-CEX5, with dry filters for overspray control. (Constructed in 2000 and modified in 2003)

In the source's Title V permit (T039-6091-00002, December 27, 2000), the volatile organic HAP emissions from fiberglass panel manufacturing line C were limited to less than 100 tons per twelve (12) consecutive month period pursuant to 326 IAC 8-1-6 (BACT) and 326 IAC 2-4.1-1 (MACT). On May 29, 2003, the Permittee submitted an application to the IDEM, OAQ requesting to increase the VOC and HAP emission limits from 100 tons/yr to 129.6 tons/yr for line C due to the increase in demand. The VOC emission increase from this modification is greater than 25 tons/yr, and fiberglass panel manufacturing process is not regulated by other provisions of 326 IAC 8. Therefore, fiberglass panel manufacturing line C is subject to 326 IAC 8-1-6 and is required to control the VOC emissions using BACT.

IDEM, OAQ conducts BACT analyses in accordance with the *"Top-Down" Best Available Control Technology Guidance Document* outlined in the 1990 draft USEPA *New Source Review Workshop Manual*, which outlines the steps for conducting a top-down BACT analysis. Those steps are listed below:

- (a) Identify all potentially available control options;
- (b) Eliminate technically infeasible control options;
- (c) Rank remaining control technologies by control effectiveness;
- (d) Evaluate the most effective controls and document the results; and
- (e) Select BACT.

Also, in accordance with the "Top-Down" Best Available Control Technology Guidance Document outlined in the 1990 draft U.S EPA New Source Review Workshop Manual, BACT analyses take into account the energy, environmental, and economic impacts on the source. Emission reductions may be achieved through the application of available control techniques, changes in process design, and/or operational limitations. BACT analyses are necessary to demonstrate that the emissions remaining after application of BACT will not cause or contribute to air pollution thereby protecting public health and the environment.

The following BACT determinations are based on the following information:

- (a) The BACT analysis submitted by Owens Corning Fabricating Solutions on May 29, 2003 and the additional information submitted on July 22, 2003 and July 28, 2003.
- (b) Information from vendors/suppliers;
- (c) The EPA RACT/BACT/LAER (RBLC) Clearinghouse; and
- (d) State, and Local air quality permits.

**VOC BACT**

The source incorporates unsaturated polyester resin, gel coat, fiberglass roving, and wood panels to produce fiberglass panels. Most of the VOCs from these units are emitted by spraying gel coat and resin onto open molds. The size of the panels manufactured is 10 feet wide by 50 feet long (500 square feet in area). The primary emissions from these operations are Styrene, which is also considered a HAP. The fiberglass manufacturing operation at this source is similar to boat manufacturing process due to the size of products.

**Step 1 - Identify Control Options**

The following available technologies were identified and evaluated to control VOC emissions from the fiberglass operations:

- (a) IDEM, OAQ and the source searched EPA's RACT/BACT/LAER Clearinghouse (RBLC) and IDEM, OAQ's Air Permits to identify sources with emissions similar to this source. The search identified the following:

<u>Company</u>	<u>PBLD ID</u>	<u>Date Issued and State</u>	<u>Type of Operation</u>	<u>BACT Requirements</u>	<u>Emission Limits</u>
Noble Composites, Inc.	SPR #039-16140-00056	03/28/03 (IN)	Flat fiberglass panel manufacturing	HAP Content Limit: Gel Coat < 36% Resin < 35% Optimized spray application	245 tons/yr

<u>Company</u>	<u>PBLD ID</u>	<u>Date Issued and State</u>	<u>Type of Operation</u>	<u>BACT Requirements</u>	<u>Emission Limits</u>
Stingray Boat Company	SC-0067	06/20/00 (SC)	Boat manufacturing	HAP content limits: Pigmented gel coat < 33% Non-atomized gel coat <35% Clear gel coat < 48% Atom tooling resin < 30% Non-Atom tooling resin < 39% Tooling gel coat < 40%	249 tons/yr
Beneteau USA, Inc.	SC-0068	04/19/00 (SC)	Boat manufacturing	HAP content limits: Pigmented gel coat < 33% Non-atomized gel coat <35% Clear gel coat < 48% Atom tooling resin < 30% Non-Atom tooling resin < 39% Tooling gel coat < 40%	249 tons/yr
Fiber Pro, Inc.	MI-0251	03/24/00 (MI)	Fiberglass panel manufacturing	Controlled spray techniques, Barrier film covered cure HAP<25% for Gel coat HAP<38% for Resin	44.9 tons/yr
Praxis Industries	TN-0101	03/01/00 (TN)	Fiberglass bathroom fixtures manufacturing	Low VOC content coatings, Fluid impingement technology application guns	486 tons/yr
Bristol Fiberlite Industries	CA-0880	05/28/97 (CA)	Fiberglass coating	Rotary adsorber concentrator and thermal oxidizer	264 lbs/day
Aqua Glass West, Inc.	OR-0023	05/27/97 (OR)	Bathtub, spa and shower stall manufacturing	A thermal oxidizer with 85% control is required when VOC > 166 ton/yr	166 tons/yr

(b) Owens Corning Fabricating Solutions also evaluated a variety of control technologies, including the following:

- (1) Carbon Adsorption;
- (2) Regenerative Thermal Oxidation (RTO);
- (3) Rotor Concentrator/RTO Combinations;
- (4) Regenerative Catalytic Oxidation;
- (5) Low VOC/HAP Resin and Gel Coat with Controlled High Efficiency Spray Applicators; (Currently used)
- (6) Good Work Practice Standards and Operating Limitations; (Currently Used)
- (7) Condensation;

- (8) Biofiltration;
- (9) Non-Atomizing Gel coat and Resin Application; and
- (10) Vapor Suppressed Resins.

**Step 2 - Eliminate technically infeasible control options**

Based on the results from the RBLC database search, vendor review, and an evaluation of the control technologies, IDEM, OAQ has determined that the use of carbon adsorption, condensation, biofiltration, non-atomizing gel coat application, and vapor suppressed resins are not technically feasible options for this source for the following reasons:

- (a) The use of carbon adsorption is infeasible because the monomer will block the carbon beds.
- (b) The condensation method is infeasible due to the low VOC concentration in the waste stream.
- (c) The technology of biofiltration systems is still under development for styrene emission controls.
- (d) Non-atomizing gel coat/resin application is infeasible for Owens Corning Fabricating Solutions because of product appearance standards.
- (e) Vapor suppressed resins is infeasible for Owens Corning Fabricating Solutions because vapor suppressed resins contain paraffin materials that will prevent bonding of the laminate to the wood panel substrate.

**Step 3 - Rank remaining control technologies by control effectiveness**

The remaining technically feasible approaches for controlling VOC emissions from facilities that have a VOC PTE comparable in magnitude to the fiberglass and wood panel manufacturing operation at this source are:

Options for VOC Control	VOC Destruction Efficiency (%)	*Overall VOC Control Efficiency (%)
Regenerative Thermal Oxidizer (RTO)	98%	88%
Regenerative Catalytic Oxidation	98%	88%
Rotor Concentrator with Thermal Oxidizer	95%	86%
Low VOC/HAP Resins and Gel Coats with Controlled High Efficiency Spray Applicators	<50%	NA
Good Work Practice and Operating Standards	Unknown	NA

Note: (\*) Assume 90% capture efficiency.

**Step 4 - Evaluate the most effective controls and document results**

Owens Corning Fabricating Solutions provided IDEM, OAQ with a thorough economic analysis of the technically feasible control options. The analysis estimated the cost of the VOC control equipment, including the initial capital cost of the various components intrinsic to the complete system, and the estimated annual operating costs. The estimated total capital cost was calculated with the use of a factoring method of determining direct and indirect installation costs. The basic equipment costs were obtained from vendor's quoted prices. Annualized costs were developed based on information from the vendors and a literature review. The analysis assumed an interest rate of 5% and an equipment life of 10 years. The basis of cost effectiveness, used to evaluate the control options, is the ratio of the annualized cost to the amount of VOC (tons) removed per year. Note that the cost effectiveness of each option only accounts for the portion of VOC removed by the add-on controls. There are relatively negligible costs associated with the low VOC/HAP gel coat with controlled spray technologies because this is currently used at this source. A summary of the cost figures determined in the analysis is provided in the table below:

Option	Capital Cost (\$)	Total Operating Cost (\$/yr)	Total Annualized Costs (\$/yr)	Potential VOC removal (ton/yr)	Cost Effectiveness (\$/ton VOC removed)
Thermal Oxidizer - One Large Unit (88% overall reduction)	\$3,845,743	\$1,174,530	\$1,672,554	114.0	\$14,672
Thermal Oxidizer - One Large Unit (88% overall reduction)	\$3,278,747	\$954,939	\$967,653	114.0	\$12,101
Regenerative Catalytic Oxidizer (88% overall reduction)	\$4,282,759	\$2,025,963	\$2,580,553	114.0	\$22,636
Rotor Concentration with Thermal Oxidize (86% overall reduction)	\$4,107,953	\$269,807	\$801,787	111.5	\$7,191
Low VOC/HAP Resins and Gel Coats with Controlled High Efficiency Spray Applicators Coats	NA	NA	NA	NA	\$0.0 (currently used)

Note: A complete breakdown of the costs associated with the add on control devices is included in Appendix C.

**Step 5 - Select BACT**

IDEM, OAQ has determined that the installation of thermal oxidizers and catalytic oxidizers are economically infeasible for Owens Corning Fabricating Solutions since the cost effectiveness for these options is greater than \$10,000 per ton of VOC removed. The cost effectiveness for rotor concentrator with thermal oxidizer is \$7,191 per ton removed, which is close to the economic feasible threshold. However, due to the size and weight of the parts (500 square feet), It is difficult for the source to enclose the coating and molding processes to create a system with 90% capture efficiency, which was used for the cost effectiveness analysis. With the additional cost to enclose the whole fiberglass panel manufacturing line, the cost effectiveness for installing a rotor concentrator with thermal oxidizer will be much higher than \$7,191 per ton VOC removed.

In addition, this existing source could comply with the emission limits in 40 CFR 63, Subpart WWWW (NESHAP for Reinforced Plastics Composites Production) by using controlled spray technologies with no add-on control. Therefore, IDEM, OAQ has determined the following is the BACT for the modified fiberglass panel manufacturing line C (003):

- (a) The VOC emissions from the use of resins and gel coats shall not exceed 129.6 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (b) The HAP monomer contents of resins and gel coats used at Line C (003) shall not exceed limits listed in the table below:

Type of Gel Coat/Resin	HAP Monomer Content % by Weight
Production <sup>1</sup> Gel Coat	36%
Production Resin	35%

1. Production refers to the manufacture of parts.

[Note: that this source does not use any tooling gel coat or tooling resin at this line.]

- (c) The use of non-atomized spray applications, or equivalent applications for unfilled production resins.

[Note: The VOC emissions from using “controlled mechanical spray application with coved cure,” which is currently used at this source, are lower than using “non-atomized application”.]

- (d) The use of optimized spray applications for gel coats and filled resins.
- (e) The work practice and the operator training program requirements in 326 IAC 20-25.

## Appendix C

### COST ANALYSIS

VENDOR	Anguil Environmental	Adwest/Airex
CAPITAL COSTS	Thermal Oxidizer - Single Large Unit	Thermal Oxidizer - 4 Units System
1. Purchased Equipment		
a. Basic Equipment & Auxiliaries (A)	\$2,420,000	\$1,847,057
b. Instrumentation & Controls (0.1A)	\$ 242,000	\$184,706
c. Taxes (0.03A)	\$72,600	\$55,412
d. Freight (0.05A)	\$121,000	\$-
<b><u>Total Purchased Equipment Cost (B)</u></b>	<b><u>\$2,855,600</u></b>	<b><u>\$2,087,175</u></b>
2. Direct Installation Costs (from vender = 0.15A)		
a. Foundations & Supports	\$101,640	\$140,000
b. Erection & Handling	\$181,500	\$536,000
c. Electrical	\$50,820	\$-
d. Piping	\$2,541	\$5,127
e. Insulation	\$12,705	\$25,634
f. Painting	\$12,705	\$25,634
g. Site Preparation (As Required)	\$ --	\$ --
<b><u>Total Direct Installation Costs</u></b>	<b><u>\$363,000</u></b>	<b><u>\$732,394</u></b>
<b><u>Total Direct Costs (TDC) (Purchased + Installation)</u></b>	<b><u>\$3,217,511</u></b>	<b><u>\$2,819,569</u></b>
Indirect Costs		
3. Engineering & Supervision (0.01 B)	\$82,556	\$20,872
4. Loss of Production Cost	\$--	\$--
5. Construction & Field Expenses (0.05 B)	\$142,780	\$104,359
6. Contractor Fees (0.10 B)	\$285,560	\$208,717
7. Start Up and Performance Tests (0.03 B)	\$85,668	\$62,615
8. Contingency (0.03 B)	\$85,668	\$62,615
<b><u>Total Indirect Costs</u></b>	<b><u>\$628,232</u></b>	<b><u>\$459,178</u></b>
<b><u>Total Installed Capital Cost</u></b>	<b><u>\$3,845,743</u></b>	<b><u>\$3,278,747</u></b>
Capital Cost Recovery Factor (5% INT, 10 Years)	0.12950	0.12950
<b><u>Capital Recover Cost</u></b>	<b><u>\$498,024</u></b>	<b><u>\$424,598</u></b>

**ANNUALIZED COSTS**

Direct Operating Costs

1. Operating Labor (C)	\$3,750	\$3,750
<b>a. Number of Employees</b>	<b>1</b>	<b>1</b>
<b>b. Cost/Employee/Hour w/Benefits</b>	<b>\$15</b>	<b>\$20.00</b>
<b>c. Operating Hours/Year</b>	<b>\$250</b>	<b>\$250</b>
2. Supervisory Labor (0.15 C)	\$563	\$563
3. Maintenance Labor & Materials	\$7,800	\$7,800
4. Replacement Parts	\$--	\$--
5. Utilities		
a. Natural Gas (from vender)	\$945,035	\$771,550
<b>MMBTU/HR Input</b>	<b>26.3</b>	<b>20.6</b>
<b>Operating Hours/Year</b>	<b>6,500</b>	<b>6,500</b>
<b>Cost/MMBTU - Provided by Facility</b>	<b>\$5.75</b>	<b>\$5.75</b>
b. Electricity (from vender)	\$348,075	\$306,345
<b>HP Requirements</b>	<b>1197</b>	<b>790</b>
<b>Operating Hours/Year</b>	<b>6,500</b>	<b>6,500</b>
<b>Cost/KWH - Provided by Facility</b>	<b>\$0.06</b>	<b>\$0.06</b>
<b>Cost/Hour</b>	<b>\$53.55</b>	<b>\$47.13</b>
6. Catalyst Replacement (20% Basic Capital Cost/5 Years)	\$ --	\$ --
<b><u>Total Direct Operating Costs</u></b>	<b><u>\$1,305,223</u></b>	<b><u>\$1,090,008</u></b>

Indirect Operating Costs

6. Overhead (60% of Oper. Labor & Maintenance)	\$7,268	\$7,268
7. Property Tax, Insurance, and Administrative Costs (0.04 Capital Cost)	\$153,829	\$131,150
<b><u>Total Indirect Operating Costs</u></b>	<b><u>\$161,097</u></b>	<b><u>\$138,418</u></b>

**Heat Recovery Credit**

	<b><u>\$(291,790)</u></b>	<b><u>\$(273,487)</u></b>
a. Heat Input - Annually - MMBTU/Yr	164,320	154,050
b. Unit Heat Efficiency - Heat Output of Control Device	95%	95%
c. Heat Available for Recovery	156,104	146,348
d. Heat Exchanger Efficiency for Heat Recovery	65%	65%
e. Percent Heat Recovery/Year (6 Months)	50%	50%
f. Heat Value Recovered - MMBTU/Yr	50,734	47,563
g. Cost/MMBTU - Provided by Facility	\$ 5.75	\$5.75

<b><u>Total Annual Operating Cost</u></b>	<b><u>\$1,174,530</u></b>	<b><u>\$954,939</u></b>
<b><u>Capital Recover Cost</u></b>	<b><u>\$498,024</u></b>	<b><u>\$424,598</u></b>
<b><u>Total Annualized Cost</u></b>	<b><u>\$1,672,554</u></b>	<b><u>\$1,379,537</u></b>
Uncontrolled VOC Emissions (PTE - Requested Limit)	129.6	129.6
Control Efficiency	88%	88%
TPY VOC Removed at Control Efficiency	114.0	114.0
<b><u>Cost Effectiveness, \$/Ton VOC Removed</u></b>	<b><u>\$ 14,672</u></b>	<b><u>\$ 12,101</u></b>

VENDOR	Anguil Environmental Catalytic Oxidizer	Anguil Environmental Rotor Concentrator / Thermal Oxidizer
<b>CAPITAL COSTS</b>		
1. Purchased Equipment		
a. Basic Equipment & Auxiliaries (A)	\$2,695,000	\$2,585,000
b. Instrumentation & Controls (0.1A)	\$ 269,500	\$258,500
c. Taxes (0.03A)	\$80,850	\$77,550
d. Freight (0.05A)	\$134,750	\$129,250
<b><u>Total Purchased Equipment Cost (B)</u></b>	<b><u>\$3,180,100</u></b>	<b><u>\$3,050,300</u></b>
2. Direct Installation Costs (from vendor)		
a. Foundations & Supports	\$113,190	\$108,570
b. Erection & Handling	\$202,125	\$193,875
c. Electrical	\$56,595	\$54,285
d. Piping	\$2,830	\$2,714
e. Insulation	\$14,149	\$13,571
f. Painting	\$14,149	\$13,571
g. Site Preparation (As Required)	\$ --	\$ --
<b><u>Total Direct Installation Costs</u></b>	<b><u>\$404,250</u></b>	<b><u>\$387,750</u></b>
<b><u>Total Direct Costs (TDC) (Purchased + Installation)</u></b>	<b><u>\$3,583,137</u></b>	<b><u>\$3,436,887</u></b>
Indirect Costs		
3 Engineering & Supervision (0.01 B)	\$31,801	\$30,503
4 Loss of Production Cost	\$--	\$--
5 Construction & Field Expenses (0.05 B)	\$159,005	\$152,515
6 Contractor Fees (0.10 B)	\$318,010	\$305,050
7 Start Up and Performance Tests (0.03 B)	\$95,403	\$91,509
8 Contingency (0.03 B)	\$95,403	\$91,509
<b><u>Total Indirect Costs</u></b>	<b><u>\$699,622</u></b>	<b><u>\$671,066</u></b>
<b><u>Total Installed Capital Cost</u></b>	<b><u>\$4,282,759</u></b>	<b><u>\$4,107,953</u></b>
Capital Cost Recovery Factor (5% INT, 10 Years)	0.12950	0.12950
<b><u>Capital Recover Cost</u></b>	<b><u>\$554,617</u></b>	<b><u>\$531,980</u></b>

**ANNUALIZED COSTS**

Direct Operating Costs

1. Operating Labor	\$3,750	\$3,750
<b>a. Number of Employees</b>	<b>1</b>	<b>1</b>
<b>b. Cost/Employee/Hour w/Benefits</b>	<b>\$15</b>	<b>\$20.00</b>
<b>c. Operating Hours/Year</b>	<b>\$250</b>	<b>\$250</b>
2. Supervisory Labor (0.15 *1)	\$563	\$563
3. Maintenance Labor & Materials	\$7,800	\$7,800
4. Replacement Parts	\$--	\$--
5. Utilities		
a. Natural Gas (from vender)	\$415,285	\$74,100
<b>MMBTU/HR Input</b>	<b>11.1</b>	<b>1.98</b>
<b>Operating Hours/Year</b>	<b>6,500</b>	<b>6,500</b>
<b>Cost/MMBTU - Provided by Facility</b>	<b>\$5.75</b>	<b>\$5.75</b>
b. Electricity (from vender)	\$348,075	\$34,840
<b>HP Requirements</b>	<b>1197</b>	<b>120</b>
<b>Operating Hours/Year</b>	<b>6,500</b>	<b>6,500</b>
<b>Cost/KWH - Provided by Facility</b>	<b>\$0.06</b>	<b>\$0.06</b>
<b>Cost/Hour</b>	<b>\$53.55</b>	<b>\$5.36</b>
6. Catalyst Replacement (20% Basic Capital Cost/5 Years)	\$ 1,200,000	\$ --
<b><u>Total Direct Operating Costs</u></b>	<b><u>\$1,975,473</u></b>	<b><u>\$121,053</u></b>

Indirect Operating Costs

6. Overhead (60% of Oper. Labor & Maintenance)	\$7,268	\$7,268
7. Property Tax, Insurance, and Administrative Costs (0.04 Capital Cost)	\$171,310	\$164,318
<b><u>Total Indirect Operating Costs</u></b>	<b><u>\$178,578</u></b>	<b><u>\$171,586</u></b>

**Heat Recovery Credit**

	<b><u>\$(128,115)</u></b>	<b><u>\$(22,832)</u></b>
a. Heat Input - Annually - MMBTU/Yr	72,215	12,870
b. Unit Heat Efficiency - Heat Output of Control Device	95%	95%
c. Heat Available for Recovery	68,604	12,227
d. Heat Exchanger Efficiency for Heat Recovery	65%	65%
e. Percent Heat Recovery/Year (6 Months)	50%	50%
f. Heat Value Recovered - MMBTU/Yr	22,296	3,974
g. Cost/MMBTU - Provided by Facility	\$ 5.75	\$5.75

<b><u>Total Annual Operating Cost</u></b>	<b><u>\$2,025,963</u></b>	<b><u>\$269,807</u></b>
<b><u>Capital Recover Cost</u></b>	<b><u>\$554,617</u></b>	<b><u>\$531,980</u></b>
<b><u>Total Annualized Cost</u></b>	<b><u>\$2,580,553</u></b>	<b><u>\$801,787</u></b>
Uncontrolled VOC Emissions (PTE - Requested Limit)	129.6	129.6
Control Efficiency	88%	86%
TPY VOC Removed at Control Efficiency	114.0	111.5
<b><u>Cost Effectiveness, \$/Ton VOC Removed</u></b>	<b><u>\$ 22,636</u></b>	<b><u>\$ 7,191</u></b>