

**NOTICE OF 30-DAY PERIOD  
FOR PUBLIC COMMENT**

Proposed Approval of Construction and Operation Permit

for **Global Glass, Inc.**  
in **Elkhart County**

**CP 039-9601, Plt ID 039-00493**

Notice is hereby given that the above company located at 58190 County Road 3, Elkhart, Indiana 46517, has made application to the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM) for a permit to construct and operate fiberglass recreational vehicle parts manufacturing facilities with dry filters and a small drum bag collection system as air pollution control with the option of adding a water wash system and a cyclone. Based on 8,760 hours of operation per year, the VOC allowable emissions are 509 tons per year and the PM and PM<sub>10</sub> allowable emissions are 41.3 tons per year. The allowable emissions of any single hazardous air pollutant (HAP) are 370 tons per year and the allowable emissions of any combination of HAPs are 417 tons per year. The VOC emissions will be limited to 249 tons per year, which will also limit single HAP emissions to 181 tons per year, any combination of HAP emissions to 204 tons per year, and PM and PM<sub>10</sub> emissions to 14.0 tons per year.

Notice is hereby given that there will be a period of 30 days from the date of publication of this notice during which any interested person may comment on why this proposed permit should or should not be issued. Appropriate comments should be related to air quality issues, interpretation of the applicable state and federal rules, calculations made, technical issues, or the effect that the operation of this facility would have on any aggrieved individuals. A copy of the application and staff review is available for examination at the **Elkhart Public Library located at 300 South Second Street, Elkhart, Indiana**. All comments, along with supporting documentation, should be submitted in writing to the IDEM, OAM, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana 46206-6015. If appropriate adverse comments concerning the **air pollution impact** of this proposed source are received, together with a request for a public hearing, such a hearing may be held to give further consideration to this application.

Persons not wishing to comment at this time, but wishing to receive notice of future proceedings conducted related to this action, must submit a written request to the Office of Air Management (OAM), at the above address. All interested parties of record will receive a notice of the decision on this matter and will then have 15 days after receipt of the Notice of Decision to file a petition for administrative review. Procedures for filing such a petition will be enclosed with the Notice.

Questions should be directed to CarrieAnn Ortolani, c/o OAM, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, at 516-691-3395 or in Indiana at 1-800-451-6027 (ext 516-691-3395).

Paul Dubenetzky, Chief  
Permit Branch  
Office of Air Management

CAO/MES

**CONSTRUCTION PERMIT  
OFFICE OF AIR MANAGEMENT**

**Global Glass, Inc.  
58190 County Road 3  
Elkhart, Indiana 46517**

is hereby authorized to construct the equipment listed on Page 2 of this permit.

This permit is issued to the above mentioned company (herein known as the Permittee) under the provisions of 326 IAC 2-1 and 40 CFR 52.780, with conditions listed on the attached pages.

Construction Permit No.: CP 039-9601-00493	
Issued by:  Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

- (a) One (1) custom gelcoat booth, identified as SV001, equipped with four (4) high volume, low pressure spray guns and dry filters for overspray control, capacity: 15 custom fiberglass parts per hour.
- (b) One (1) custom lamination booth, identified as SV002, equipped with three (3) high volume, low pressure spray guns and dry filters for overspray control, capacity: 15 custom fiberglass parts per hour.
- (c) One (1) grinding booth, identified as SV003, equipped with dry filters and the option of a water wash system for controls, capacity: 1,525 pounds per hour.
- (d) One (1) gelcoat reciprocator flat panel facility, identified as SV004, equipped with one (1) air-assisted spray gun and dry filters as overspray control, capacity: 5 flat panels per hour.
- (e) One (1) resin reciprocator flat panel facility, identified as SV005, equipped with one (1) air-assisted spray gun and dry filters as overspray control, capacity: 5 flat panels per hour.
- (f) One (1) woodworking department equipped with one (1) ten (10) inch table saw, one (1) ten (10) inch ban saw, one (1) ten (10) inch chop saw, one (1) pin router, one (1) small drum bag collection system and the option of one (1) cyclone for particulate control, maximum capacity: 168 pounds of wood per hour.
- (g) Two (2) natural gas-fired air makeup units, maximum heat input capacity: 3.08 million British thermal units per hour, each.
- (h) Twenty-four (24) natural gas-fired forced air heaters, maximum heat input capacity: 0.1 million British thermal units per hour, each.
- (i) Four (4) fixed-roof, above-ground resin tanks, capacity: 6,000 gallons, each.

### **Construction Conditions**

#### General Construction Conditions

1. The data and information supplied with the application shall be considered part of this permit. Prior to any proposed change in construction which may affect allowable emissions, the change must be approved by the Office of Air Management (OAM).
2. This permit 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.

#### Effective Date of the Permit

3. Pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.
4. Pursuant to 326 IAC 2-1-9(b)(Revocation of Permits), the Commissioner may revoke this permit 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. Notwithstanding Construction Condition No. 6, all requirements and conditions of this construction permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to 326 IAC 2 (Permit Review Rules).

#### First Time Operation Permit

6. This document shall also become a first-time operation permit pursuant to 326 IAC 2-1-4 (Operating Permits) when, prior to start of operation, the following requirements are met:
  - (a) The attached affidavit of construction shall be submitted to the Office of Air Management (OAM), Permit Administration & Development Section, verifying that the facilities were constructed as proposed in the application. The facilities covered in the Construction Permit may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM.
  - (b) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.
  - (c) The Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section and attach it to this document.
  - (d) The operation permit will be subject to annual operating permit fees pursuant to 326 IAC 2-7-19 (Fees).
  - (e) The Permittee has submitted their Part 70 (T-039-7574-00208) application on December 12, 1996 for the existing source. The equipment being reviewed under this permit shall be incorporated in the submitted Part 70 application.

7. When the facilities are constructed and placed into operation the following operation conditions shall be met:

### **Operation Conditions**

#### General Operation Conditions

1. The data and information supplied in the application shall be considered part of this permit. Prior to any change in the operation which may result in an increase in allowable emissions exceeding those specified in 326 IAC 2-1-1 (Construction and Operating Permit Requirements), the change must be approved by the Office of Air Management (OAM).
2. The Permittee shall 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.

#### Preventive Maintenance Plan

3. Pursuant to 326 IAC 1-6-3 (Preventive Maintenance Plans), the Permittee shall prepare and maintain a preventive maintenance plan, including the following information:
  - (a) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices.
  - (b) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions.
  - (c) Identification of the replacement parts which will be maintained in inventory for quick replacement.

The preventive maintenance plan shall be submitted to IDEM, OAM upon request and shall be subject to review and approval.

#### Transfer of Permit

4. Pursuant to 326 IAC 2-1-6 (Transfer of Permits):
  - (a) In the event that ownership of these fiberglass recreational vehicle parts manufacturing facilities is changed, the Permittee shall notify OAM, Permit Branch, within thirty (30) days of the change. Notification shall include the date or proposed date of said change.
  - (b) The written notification shall be sufficient to transfer the permit from the current owner to the new owner.
  - (c) The OAM shall reserve the right to issue a new permit.

#### Permit Revocation

5. Pursuant to 326 IAC 2-1-9(a)(Revocation of Permits), this permit to construct and operate may be revoked for any of the following causes:
  - (a) Violation of any conditions of this permit.

- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.
- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of 326 IAC 2-1 (Permit Review Rules).

Availability of Permit

6. Pursuant to 326 IAC 2-1-3(l), the Permittee shall maintain the applicable permit on the premises of this source and shall make this permit available for inspection by the IDEM, or other public official having jurisdiction.

Malfunction Condition

7. Pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):
- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM) or appointed representative upon request.
  - (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAM, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.
  - (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).
  - (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

Annual Emission Reporting

8. Pursuant to 326 IAC 2-6 (Emission Reporting), the Permittee must annually submit an emission statement for the source. This statement must be received by April 15 of each year and must comply with the minimum requirements specified in 326 IAC 2-6-4. A copy of this rule is enclosed. The annual statement must be submitted to:

Indiana Department of Environmental Management  
Technical Support and Modeling Section, Office of Air Management  
100 North Senate Avenue, P. O. Box 6015  
Indianapolis, Indiana 46206-6015

The annual emission statement covers the twelve (12) consecutive month time period starting December 1 and ending November 30.

Opacity Limitations

9. Pursuant to 326 IAC 5-1-2 (Visible Emission Limitations) except as provided in 326 IAC 5-1-3 (Temporary Exemptions), the visible emissions shall meet the following:
- (a) visible emissions shall not exceed an average of 40 percent opacity in 24 consecutive readings.
  - (b) visible emissions shall not exceed 60 percent opacity for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period.

10. Particulate Matter (PM) Limitation

- (a) Pursuant to 326 IAC 6-3-2(c) (Process Operations), the dry filters shall be in operation at all times when the grinding operations are taking place and shall not exceed the allowable particulate matter (PM) emission rate of 3.42 pounds per hour. Daily inspections shall be performed to verify the placement, integrity and particulate loading of the dry filters. Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.
- (b) Pursuant to 326 IAC 6-3-2(c) (Process Operations), the small drum bag collection system shall be in operation at all times when the woodworking operations are taking place and shall not exceed the allowable particulate matter (PM) emission rate of 0.780 pounds per hour. Inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.
- (c) Pursuant to 326 IAC 6-3-2 (Process Operations):
  - (1) The dry filters for particulate matter overspray control shall be in operation at all times when the custom resin booth, custom gelcoat booth, gelcoat reciprocator flat panel facility, and resin reciprocator flat panel facility are in operation.
  - (2) The custom resin booth, custom gelcoat booth, gelcoat reciprocator flat panel facility, and resin reciprocator flat panel facility shall each comply with 326 IAC 6-3-2(c) using the following equation:

Interpolation and extrapolation 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:

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

- (3) Daily inspections shall be performed to verify the placement, integrity and particulate loading of the dry filters.
  - (4) Weekly inspections shall be performed of the coating emissions from the exhaust stacks/vents and the presence of overspray on the rooftops and the nearby ground.
  - (5) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.
- (d) These limitations will also make the requirements of 326 IAC 2-2, PSD, not applicable.

Visible Emission Notations

11. Visible emission notations of all exhausts to the atmosphere from small drum bag collection system and cyclone shall be performed once per week when woodworking is in operation. A trained employee will record whether emissions are normal or abnormal.

- (a) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, 80 percent of the time the process is in operation, not counting start up or shut down time.
- (b) In the case of batch or discontinuous operation, readings shall be taken during that part of the operation specified in the facility's specific condition prescribing visible emissions.
- (c) 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 and abnormal visible emissions for that specific process.
- (d) The Preventive Maintenance Plan for this facility shall contain troubleshooting contingency and corrective actions for when an abnormal emission is observed.

Fugitive Dust Emissions

12. Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions), the Permittee shall be in violation of 326 IAC 6-4 (Fugitive Dust Emissions) if any of the criteria specified in 326 IAC 6-4-2(1) through (4) are violated. Observations of visible emissions crossing the property line of the source at or near ground level must be made by a qualified representative of IDEM. [326 IAC 6-4-5(c)].

Volatile Organic Compound

13. Pursuant to 326 IAC 2-1-3(i)(8), records of surface coating quantities and organic solvent contents shall be maintained for a minimum period of 36 months and made available upon request of the Office of Air Management (OAM). Any change or modification which may increase potential emissions to 249 tons per year from the equipment covered in this permit shall obtain a PSD permit pursuant to 326 IAC 2-2 before such change may occur.

BACT Condition, Minor PSD Source Limit, and New Source Toxics Control

14. (a) Pursuant to 326 IAC 8-1-6 (New Facilities; general reduction requirements), the BACT for the new fiberglass flat panel manufacturing operation is satisfied by the requirements of 326 IAC 2-1-3.4 (New Source Toxics Control).

- (b) Pursuant to 326 IAC 2-1-3.4 (New Source Toxics Control), MACT for the fiberglass flat panel manufacturing operation shall be the following:
- (1) The input VOC to the entire source (which includes the custom gel coat and resin lamination booths, the new flat panel manufacturing operation, and all other operations in Plants 1, 2, 3, and 4) shall be limited such that the emissions of VOC do not exceed 249 tons per year, rolled on a monthly basis. Compliance with this limit shall be determined based upon the following criteria:
    - (i) Input VOC from gel coats delivered to the applicator shall be determined by multiplying the gel coat usage by the appropriate emission factor approved for use by IDEM, which shall not exceed 32.3 percent (32.3%).
    - (ii) Input VOC from resins delivered to the applicator shall be determined by multiplying the resin usage by the appropriate emission factor approved for use by IDEM, not to exceed 17.7 percent (17.7%).
    - (iii) Input VOC from all other VOC-emitting materials shall not exceed 249 tons minus the input VOC from gel coats and resins calculated according to the criteria in (i) and (ii).

During the first twelve (12) months of operation, input VOC shall be limited such that the total input as determined according to the criteria in (i), (ii), and (iii) above divided by the accumulated months of operation shall not exceed the limit specified.

- (2) The input of volatile organic HAP from gel coat and resin usage on the new flat panel manufacturing operation shall be limited such that the emissions of volatile organic HAP from the flat panel manufacturing operation shall not exceed 100 tons per year, rolled on a monthly basis. Compliance with this limit shall be determined based upon the criteria specified in (b)(1).
- (3) Use of resins and gel coats, including tooling resins and gel coats, containing a maximum mass-weighted average styrene content of 35 percent (35%) by weight for resins, 37 percent (37%) by weight for gel coats. Styrene contents shall be calculated on a neat basis, i.e., excluding any filler. Compliance with these mass-weighted average styrene content limits shall be demonstrated on a monthly basis.

The use of resins with styrene contents lower than 35 percent (35%), or gel coats with styrene contents lower than 37 percent (37%), can be used to offset the use of resins with styrene contents higher than 35 percent (35%), or gel coats with styrene contents higher than 37 percent (37%). This is allowed to meet the weighted average styrene content limits for resins and gel coats, and shall be calculated on an equivalent emissions mass basis as shown below:

(Emissions from >35% resin or >37% gel coat) - (Emissions from 35% resin or 37% gel coat) # (Emissions from 35% resin or 37% gel coat) - (Emissions from <35% resin or <37% gel coat).

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

Styrene emission factor = emission factor indicated for the styrene content of the resin or gel coat used and approved for use by IDEM.

- (4) Use of flow coaters, a type of non-spray application technology of a design and specifications to be approved by IDEM, OAM, in the following manner:
  - (i) to apply 50 percent (50%) of neat resins used by January 1, 1999.
  - (ii) to apply all resins used, neat and filled, by July 1, 1999. If this is still not possible for filled resins by this time, equivalent emission reduction techniques must be used elsewhere in the process. Examples of these include use of a lower styrene content resin or gel coat, closed molding on a portion of resin usage, or installing a control device with an overall reduction efficiency of 95 percent (95%).
- (5) Use of controlled spray techniques according to a manner approved by IDEM, OAM for gel coats at all times and for neat and filled resins until such time that flow coaters must be used. Controlled spray techniques include, but are not limited to, the use of airless, air-assisted airless, or high volume low pressure (HVLP) spray applicators.
- (6) Use of the following work practices:
  - (i) Spray applicators shall be cleaned with acetone.
  - (ii) Cleanup solvent containers shall be used to transport solvent from drums to work.
  - (iii) Clean up stations shall be closed containers having soft gasketed spring-loaded closures.
  - (iv) Cleanup rags saturated with solvent shall be stored, transported, and disposed of in containers that are closed tightly.
  - (v) The spray guns used shall be the type that can be cleaned without the need for spraying the solvent into the air.
  - (vi) 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.
  - (vii) Storage containers used to store VOC- and/or HAP- containing materials shall be kept covered when not in use.

- (7) Wood panels shall be placed immediately after resin application and roll-out.
- (8) If other emission reduction techniques are identified and demonstrated to IDEM, OAM's satisfaction, they may be proposed for use instead of, or in addition to, the use of flow coaters.
- (c) Pursuant to 326 IAC 2-2, this modification to an existing minor source shall be considered minor since the VOC emissions are less than 250 tons per year.

Reporting Requirements

15. A log of information necessary to document compliance with operation permit Condition No. 14 shall be maintained. These records shall include usage of resin, gel coat, coatings, thinner, clean up solvent, and all other VOC emitting materials usage, material safety data sheets (MSDS) and the dates of use. Records shall be kept for at least the past 36-month period and made available upon request to the Office of Air Management (OAM).

- (a) A quarterly summary shall be submitted to:

Indiana Department of Environmental Management  
Compliance Data Section, Office of Air Management  
100 North Senate Avenue, P.O. Box 6015  
Indianapolis, Indiana 46206-6015

within 30 days after the end of the quarter being reported in the format attached. These reports shall include the volatile organic compounds (VOC) emissions from the entire source, and volatile organic hazardous air pollutant (HAP) emissions from the new flat panel manufacturing operation.

- (b) Unless otherwise specified in this permit, any notice, report, or other submissions required by this permit shall be timely if:
  - (1) Delivered by U.S. mail and postmarked on or before the date it is due; or
  - (2) Delivered by any other method if it is received and stamped by IDEM, OAM, on or before the date it is due.
- (c) All instances of deviations from any requirements of this permit must be clearly identified in such reports.
- (d) Any corrective actions taken as a result of an exceedance of a limit, an excursion from the parametric values, or a malfunction that may have caused excess emissions must be clearly identified in such reports.
- (e) The first report shall cover the period commencing the postmarked submission date of the Affidavit of Construction.

Open Burning

16. The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6.

Emergency Reduction Plans

17. Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

(a) The Permittee shall prepare written emergency reduction plans (ERPs) consistent with safe operating procedures.

(b) These ERPs shall be submitted for approval to:

Indiana Department of Environmental Management  
Compliance Branch, Office of Air Management  
100 North Senate Avenue, P.O. Box 6015  
Indianapolis, Indiana 46206-6015

within 180 calendar days from the date on which this source commences operation.

(c) If the ERP is disapproved by IDEM, OAM, the Permittee shall have an additional thirty (30) days to resolve the differences and submit an approvable ERP. If after this time, the Permittee does not submit an approvable ERP, IDEM, OAM, shall supply such a plan.

(d) These ERPs shall state those actions that will be taken, when each episode level is declared, to reduce or eliminate emissions of the appropriate air pollutants.

(e) Said ERPs shall also identify the sources of air pollutants, the approximate amount of reduction of the pollutants, and a brief description of the manner in which the reduction will be achieved.

(f) Upon direct notification by IDEM, OAM, that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate level. [326 IAC 1-5-3]

**MALFUNCTION REPORT**

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR MANAGEMENT  
FAX NUMBER - 317 233-5967**

**This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6  
and to qualify for the exemption under 326 IAC 1-6-4.**

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE: IT HAS POTENTIAL TO EMIT 25 LBS/HR PARTICULATES ? \_\_\_\_\_, 100 LBS/HR VOC ? \_\_\_\_\_, 100 LBS/HR SULFUR DIOXIDE ? \_\_\_\_\_ OR 2000 LBS/HR OF ANY OTHER POLLUTANT ? \_\_\_\_\_ EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION \_\_\_\_\_.

THIS MALFUNCTION RESULTED IN A VIOLATION OF: 326 IAC \_\_\_\_\_ OR, PERMIT CONDITION # \_\_\_\_\_ AND/OR PERMIT LIMIT OF \_\_\_\_\_

THIS INCIDENT MEETS THE DEFINITION OF 'MALFUNCTION' AS LISTED ON REVERSE SIDE ?      Y            N

THIS MALFUNCTION IS OR WILL BE LONGER THAN THE ONE (1) HOUR REPORTING REQUIREMENT ?      Y            N

COMPANY: \_\_\_\_\_ Global Glass, Inc. \_\_\_\_\_ PHONE NO. \_\_\_\_\_ 219 - 294 - 7681 \_\_\_\_\_

LOCATION: (CITY AND COUNTY) \_\_\_\_\_ Elkhart / Elkhart \_\_\_\_\_

PERMIT NO. \_\_\_\_\_ AFS PLANT ID: \_\_\_\_\_ 039 - 9601 \_\_\_\_\_ AFS POINT ID: \_\_\_\_\_ 039 - 00493 \_\_\_\_\_ INSP: \_\_\_\_\_

CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND REASON: \_\_\_\_\_

DATE/TIME MALFUNCTION STARTED: \_\_\_\_/\_\_\_\_/ 19\_\_\_\_ \_\_\_\_\_ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: \_\_\_\_\_

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE \_\_\_\_/\_\_\_\_/ 19\_\_\_\_ \_\_\_\_\_ AM/PM

TYPE OF POLLUTANTS EMITTED: TSP, PM-10, SO2, VOC, OTHER: \_\_\_\_\_

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: \_\_\_\_\_

MEASURES TAKEN TO MINIMIZE EMISSIONS: \_\_\_\_\_

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL\* SERVICES: \_\_\_\_\_

CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS: \_\_\_\_\_

CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT: \_\_\_\_\_

INTERIM CONTROL MEASURES: (IF APPLICABLE) \_\_\_\_\_

MALFUNCTION REPORTED BY: \_\_\_\_\_ TITLE: \_\_\_\_\_  
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

**Please note - This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6 and to qualify for the exemption under 326 IAC 1-6-4.**

**326 IAC 1-6-1    Applicability of rule**

Sec. 1.    The requirements of this rule (326 IAC 1-6) shall apply to the owner or operator of any facility which has the potential to emit twenty-five (25) pounds per hour of particulates, one hundred (100) pounds per hour of volatile organic compounds or SO<sub>2</sub>, or two thousand (2,000) pounds per hour of any other pollutant; or to the owner or operator of any facility with emission control equipment which suffers a malfunction that causes emissions in excess of the applicable limitation.

**326 IAC 1-2-39    “Malfunction” definition**

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. (Air Pollution Control Board; 326 IAC 1-2-39; filed Mar 10, 1988, 1:20 p.m.: 11 IR 2373)

**\*Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

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

**Quarterly Report**

Source Name: Global Glass, Inc.  
Source Address: 58190 County Road 3, Elkhart, Indiana 46517  
Mailing Address: 28967 US 33 West, Elkhart, Indiana 46516  
Permit No.: CP 039-9601-00493  
Facility: Entire Source  
Parameter: VOC emissions  
Limit: 249 tons per consecutive twelve (12) month period

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

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
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: \_\_\_\_\_

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

**Quarterly Report**

Source Name: Global Glass, Inc.  
Source Address: 58190 County Road 3, Elkhart, Indiana 46517  
Mailing Address: 28967 US 33 West, Elkhart, Indiana 46516  
Permit No.: CP 039-9601-00493  
Facility: Flat Panel Manufacturing Operation  
Parameter: Volatile Organic HAP emissions  
Limit: 100 tons per consecutive twelve (12) month period

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

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
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: \_\_\_\_\_

Indiana Department of Environmental Management  
Office of Air Management

Technical Support Document (TSD) for New Construction and Operation

**Source Background and Description**

Source Name: Global Glass, Inc.  
Source Location: 58190 County Road 3, Elkhart, Indiana 46517  
County: Elkhart  
Construction Permit No.: CP 039-9601-00493  
SIC Code: 3089  
Permit Reviewer: CarrieAnn Ortolani

The Office of Air Management (OAM) has reviewed an application from Global Glass, Inc. relating to the construction and operation of fiberglass recreational vehicle parts manufacturing facilities, consisting of the following equipment:

- (a) One (1) custom gelcoat booth, identified as SV001, equipped with four (4) high volume, low pressure spray guns and dry filters for overspray control, capacity: 15 custom fiberglass parts per hour.
- (b) One (1) custom lamination booth, identified as SV002, equipped with three (3) high volume, low pressure spray guns and dry filters for overspray control, capacity: 15 custom fiberglass parts per hour.
- (c) One (1) grinding booth, identified as SV003, equipped with dry filters and the option of a water wash system for controls, capacity: 1,525 pounds per hour.
- (d) One (1) gelcoat reciprocator flat panel facility, identified as SV004, equipped with one (1) air assisted spray gun and dry filters as overspray control, capacity: 5 flat panels per hour.
- (e) One (1) resin reciprocator flat panel facility, identified as SV005, equipped with one (1) air assisted spray gun and dry filters as overspray control, capacity: 5 flat panels per hour.
- (f) One (1) woodworking department equipped with one (1) ten (10) inch table saw, one (1) ten (10) inch ban saw, one (1) ten (10) inch chop saw, one (1) pin router, one (1) small drum bag collection system and the option of one (1) cyclone for particulate control, maximum capacity: 168 pounds of wood per hour.
- (g) Two (2) natural gas-fired air makeup units, maximum heat input capacity: 3.08 million British thermal units per hour, each.
- (h) Twenty-four (24) natural gas-fired forced air heaters, maximum heat input capacity: 0.1 million British thermal units per hour, each.
- (i) Four (4) fixed-roof, above-ground resin tanks, capacity: 6,000 gallons, each.

### Source Definition

This fiberglass parts for manufacturing recreational vehicles manufacturing company consists of four (4) plants:

- (a) Plant 1 is located at 28967 U.S. 33 West, Elkhart, Indiana;
- (b) Plant 2 is located at 28967 U.S. 33 West, Elkhart, Indiana;
- (c) Plant 3 is located at 56807 Elk Park Drive, Elkhart, Indiana; and
- (d) Plant 4 is located at 58190 County Road 3, Elkhart, Indiana.

Since the four (4) plants are located in contiguous properties, have the same SIC codes and owned by one company, they will be considered as one (1) source. IDEM, OAM, has decided that moving existing equipment to Plant 4, which is currently vacant, constitutes new construction. Therefore, an interim construction permit was not issued for this modification.

### Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
SV001	Custom Gelcoat	24.0	3.0	15,255	70
SV002	Custom Lamination	24.0	3.0	15,255	70
SV003	Grinding	24.0	3.0	15,255	70
SV004	Gelcoat Reciprocator	24.0	3.0	15,255	70
SV005	Resin Reciprocator	24.0	3.0	15,255	70

### Enforcement Issue

There are no Enforcement actions pending.

### Recommendation

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

Information, unless otherwise stated, 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 March 18, 1998, with additional information received on April 15, April 21, and April 28, 1998.

### Emissions Calculations

See pages 1 through 7 of 7 of Appendix A (Emissions Calculation Spreadsheets) for detailed calculations. The fiberglass emission factors used on page 1 of 7 are computed using the Composites Fabricators Association (CFA) emission factor calculations on page 7 of 7 of TSD Appendix A. The CFA calculations were supplied by the applicant and have been determined to be acceptable.

### Total Potential and Allowable Emissions

Indiana Permit Allowable Emissions Definition (after compliance with applicable rules, based on 8,760 hours of operation per year at rated capacity):

<b>Pollutant</b>	<b>Allowable Emissions (tons/yr)</b>	<b>Potential Emissions (tons/yr)</b>
Particulate Matter (PM)	41.3	1,565
Particulate Matter (PM <sub>10</sub> )	41.3	1,565
Sulfur Dioxide (SO <sub>2</sub> )	0.022	0.022
Volatile Organic Compounds (VOC)	509	509
Carbon Monoxide (CO)	0.987	0.987
Nitrogen Oxides (NO <sub>x</sub> )	3.69	3.69
Single Hazardous Air Pollutant (HAP)	370	370
Combination of HAPs	417	417

- (a) Allowable emissions are determined from the applicability of rule 326 IAC 6-3-2 (Process Operations). Since the fiberglass spray layup has a variable process weight rate, the potential emissions with controls have been tallied as part of the allowable emission rate for the purposes of this table. See attached spreadsheets for detailed calculations.
- (b) The allowable emissions based on the rules cited are less than the potential emissions, therefore, the allowable emissions are used for the permitting determination.
- (c) Allowable emissions (as defined in the Indiana Rule) of PM, PM<sub>10</sub>, and VOC are greater than 25 tons per year. Therefore, pursuant to 326 IAC 2-1, Sections 1 and 3, a construction permit is required.
- (d) Allowable emissions (as defined in the Indiana Rule) of a single hazardous air pollutant (HAP) are greater than 10 tons per year and the allowable emissions of any combination of the HAPs are greater than 25 tons per year. Therefore, pursuant to 326 IAC 2-1, a construction permit is required.

### County Attainment Status

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO<sub>x</sub>) are precursors for the formation of ozone. Therefore, VOC and NO<sub>x</sub> 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 and NO<sub>x</sub> emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Elkhart County has been classified as attainment or unclassifiable for all remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (c) Fugitive Emissions  
Since this type of operation is not 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 and Emission Offset applicability.

### Source Status

Existing Source PSD, Part 70 or FESOP Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and as otherwise limited):

Pollutant	Emissions (tons/yr)
PM	9.36
PM <sub>10</sub>	9.36
SO <sub>2</sub>	0.002
VOC	247
CO	0.051
NO <sub>x</sub>	0.050

- (a) This existing source is not a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not in one of the 28 listed source categories.
- (b) These emissions are the 1996 emissions for Plants 1, 2, and 3 based on the AIRS Facility Subsystem Quick Look Report, dated March 30, 1998.

### Proposed Modification

PTE from the proposed modification (based on 8,760 hours of operation per year at rated capacity including enforceable emission control and production limit):

Pollutant	PM (tons/yr)	PM <sub>10</sub> (tons/yr)	SO <sub>2</sub> (tons/yr)	VOC (tons/yr)	CO (tons/yr)	NO <sub>x</sub> (tons/yr)
Proposed Modification	14.0	14.0	0.022	249	0.987	3.70
PSD Threshold Level	250	250	250	250	250	250

- (a) This modification to an existing minor stationary source is not major because the emission increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.
- (b) The VOC emissions are limited to 249 tons per year, therefore, 326 IAC 2-2, PSD requirements do not apply.

As a result of the VOC emissions being limited to 48.9% of the potential emissions, the PM and PM<sub>10</sub>, single annual HAP and total annual HAP emissions from the fiberglass spray operations are also reduced to 48.9% of the potential emissions after controls.

**Part 70 Permit Determination**

326 IAC 2-7 (Part 70 Permit Program)

This existing source has submitted their Part 70 (T-039-7574-00208) application on December 12, 1996. The equipment being reviewed under this permit shall be incorporated in the submitted Part 70 application.

**Federal Rule Applicability**

- (a) There are no New Source Performance Standards (326 IAC 12 and 40 CFR Part 60) applicable to these facilities.
- (b) The resin tanks are not subject to the New Source Performance Standard, 326 IAC 12, (40 CFR Part 60.110, Subpart Kb) because the capacity of each tank is less than 40 cubic feet.
- (c) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14 and 40 CFR Part 63) applicable to these facilities.

**State Rule Applicability**

326 IAC 2-1-3.4 (New Source Toxics Control)

Since this new source has a potential to emit greater than 10 tons per year of any single HAP and 25 tons per year of any combination of HAPs, the requirements of 326 IAC 2-1-3.4 will apply. The MACT has been presumptively determined to be the following:

- (a) Pursuant to 326 IAC 8-1-6 (New Facilities; general reduction requirements), the BACT for the new fiberglass flat panel manufacturing operation is satisfied by the requirements of 326 IAC 2-1-3.4 (New Source Toxics Control).

- (b) Pursuant to 326 IAC 2-1-3.4 (New Source Toxics Control), MACT for the fiberglass flat panel manufacturing operation shall be the following:
- (1) The input VOC to the entire source (which includes the custom gel coat and resin lamination booths, the new flat panel manufacturing operation, and all other operations in Plants 1, 2, 3, and 4) shall be limited such that the emissions of VOC do not exceed 249 tons per year, rolled on a monthly basis. Compliance with this limit shall be determined based upon the following criteria:
    - (i) Input VOC from gel coats delivered to the applicator shall be determined by multiplying the gel coat usage by the appropriate emission factor approved for use by IDEM, which shall not exceed 32.3 percent (32.3%).
    - (ii) Input VOC from resins delivered to the applicator shall be determined by multiplying the resin usage by the appropriate emission factor approved for use by IDEM, not to exceed 17.7 percent (17.7%).
    - (iii) Input VOC from all other VOC-emitting materials shall not exceed 249 tons minus the input VOC from gel coats and resins calculated according to the criteria in (i) and (ii).

During the first twelve (12) months of operation, input VOC shall be limited such that the total input as determined according to the criteria in (i), (ii), and (iii) above divided by the accumulated months of operation shall not exceed the limit specified.

- (2) The input of volatile organic HAP from gel coat and resin usage on the new flat panel manufacturing operation shall be limited such that the emissions of volatile organic HAP from the flat panel manufacturing operation shall not exceed 100 tons per year, rolled on a monthly basis. Compliance with this limit shall be determined based upon the criteria specified in (b)(1).
- (3) Use of resins and gel coats, including tooling resins and gel coats, containing a maximum mass-weighted average styrene content of 35 percent (35%) by weight for resins, 37 percent (37%) by weight for gel coats. Styrene contents shall be calculated on a neat basis, i.e., excluding any filler. Compliance with these mass-weighted average styrene content limits shall be demonstrated on a monthly basis.

The use of resins with styrene contents lower than 35 percent (35%), or gel coats with styrene contents lower than 37 percent (37%), can be used to offset the use of resins with styrene contents higher than 35 percent (35%), or gel coats with styrene contents higher than 37 percent (37%). This is allowed to meet the weighted average styrene content limits for resins and gel coats, and shall be calculated on an equivalent emissions mass basis as shown below:

$$(\text{Emissions from } >35\% \text{ resin or } >37\% \text{ gel coat}) - (\text{Emissions from } 35\% \text{ resin or } 37\% \text{ gel coat}) \neq (\text{Emissions from } 35\% \text{ resin or } 37\% \text{ gel coat}) - (\text{Emissions from } <35\% \text{ resin or } <37\% \text{ gel coat}).$$

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

Styrene emission factor = emission factor indicated for the styrene content of the resin or gel coat used and approved for use by IDEM.

- (4) Use of flow coaters, a type of non-spray application technology of a design and specifications to be approved by IDEM, OAM, in the following manner:
  - (i) to apply 50 percent (50%) of neat resins used by January 1, 1999.
  - (ii) to apply all resins used, neat and filled, by July 1, 1999. If this is still not possible for filled resins by this time, equivalent emission reduction techniques must be used elsewhere in the process. Examples of these include use of a lower styrene content resin or gel coat, closed molding on a portion of resin usage, or installing a control device with an overall reduction efficiency of 95 percent (95%).
- (5) Use of controlled spray techniques according to a manner approved by IDEM, OAM for gel coats at all times and for neat and filled resins until such time that flow coaters must be used. Controlled spray techniques include, but are not limited to, the use of airless, air-assisted airless, or high volume low pressure (HVLP) spray applicators.
- (6) Use of the following work practices:
  - (i) Spray applicators shall be cleaned with acetone.
  - (ii) Cleanup solvent containers shall be used to transport solvent from drums to work.
  - (iii) Clean up stations shall be closed containers having soft gasketed spring-loaded closures.
  - (iv) Cleanup rags saturated with solvent shall be stored, transported, and disposed of in containers that are closed tightly.
  - (v) The spray guns used shall be the type that can be cleaned without the need for spraying the solvent into the air.
  - (vi) 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.
  - (vii) Storage containers used to store VOC- and/or HAP- containing materials shall be kept covered when not in use.

- (7) Wood panels shall be placed immediately after resin application and roll-out.
  - (8) If other emission reduction techniques are identified and demonstrated to IDEM, OAM's satisfaction, they may be proposed for use instead of, or in addition to, the use of flow coaters.
- (c) Pursuant to 326 IAC 2-2, this modification to an existing minor source shall be considered minor since the VOC emissions are less than 250 tons per year.

326 IAC 2-6 (Emission Reporting)

This facility is subject to 326 IAC 2-6 (Emission Reporting), because the source emits more than 10 tons per year of VOC in Elkhart County. Pursuant to this rule, the owner/ operator of this facility must annually submit an emission statement of the facility. The annual statement must be received by April 15 of each year and must contain the minimum requirements as specified in 326 IAC 2-6-4.

326 IAC 6-3-2 (Process Operations)

- (a) The particulate matter (PM) emissions from the grinding operations (SV003) will be limited to 3.42 pounds per hour when operating at a process weight rate of 1,525 pounds per hour. Since potential PM emissions after control by the dry filters are 0.109 pounds per hour, the grinding operations will comply with this rule. Compliance will be demonstrated by operating the dry filters at all times when the grinding is taking place. The water wash system will not be required, but may be used as an additional control device.

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

$$E = 4.10 (0.763 \text{ tons/hr})^{0.67} = 3.42 \text{ pounds per hour.}$$

- (b) The particulate matter (PM) emissions from the woodworking operations will be limited to 0.780 pounds per when operating at a process weight rate of 168 pounds per hour. Since potential PM emissions after control by the small drum bag collection system are 0.485 pounds per hour, the woodworking operations will comply with this rule when the small drum bag collection system is in operation. Compliance will be demonstrated by operating the small drum bag collection system at all times when the woodworking is taking place. The cyclone will not be required, but may be used as an additional control device.

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

$$E = 4.10 (0.084 \text{ tons/hr})^{0.67} = 0.780 \text{ pounds per hour.}$$

- (c) The particulate matter (PM) emissions from the custom resin booth, custom gelcoat booth, gelcoat reciprocator flat panel facility, and resin reciprocator flat panel facility will each be limited by the following:

Interpolation and extrapolation 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:

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

Compliance will be demonstrated by operating the dry filters at all times when the custom resin booth, custom gelcoat booth, gelcoat reciprocator flat panel facility, or resin reciprocator flat panel facility are in operation.

#### 326 IAC 8-1-6 (New facilities; General reduction requirements)

The new source is subject to 326 IAC 8-1-6 because the VOC potential emissions are greater than 25 tons per year, shall commence operation after January 1, 1980 and is governed by no other provisions of Article 8. Pursuant to this rule, a Best Available Control Technology (BACT) Analysis is required. This facility has not constructed yet and the potential VOC emissions are 509 tons per year. Since 326 IAC 2-1-3.4 (New Source Toxics Rule) is the most stringent authority for controlling VOC/HAPs emissions, the MACT determined under 326 IAC 2-1-3.4 shall be the BACT and shall satisfy the requirements of 326 IAC 8-1-6 (BACT).

#### **Air Toxic Emissions**

Indiana presently requests applicants to provide information on emissions of the 187 hazardous air pollutants set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Construction Permit Application Form Y.

- (a) This proposed new source will emit levels of air toxics greater than those that constitute major source applicability according to Section 112 of the Clean Air Act. The concentrations of these air toxics were modeled and found to be (in worst case possible) as indicated in the following table. The concentrations of these air toxics were compared to the Permissible Exposure Limits (PEL) developed by the Occupational Safety and Health Administration (OSHA). The Office of Air Management (OAM) does not have at this time any specific statutory or regulatory authority over these substances.

#### **Air Toxic Emissions**

Pollutant	Rate (lbs/hr)	Rate @ 8,760 hrs/yr (tons/yr)	Rate @ limited potential (tons/yr)	Modeled Concentration @ potential rate ( $\mu\text{g}/\text{m}^3$ )	OSHA PEL ( $\mu\text{g}/\text{m}^3$ )	% OSHA PEL @ potential rate
Styrene	84.7	370	181	4,421	428,000	1.03
Methyl methacrylate	8.75	38.3	18.7	455	410,000	0.111
MEK	4.18	18.3	8.95	218	590,000	0.037
Dimethyl phthalate	0.869	3.80	1.86	45.0	5,000	0.900
MIBK	2.04	8.92	4.36	106	410,000	0.026
Lead	0.057	0.251	0.123	2.89	50.0	5.78
Toluene	3.87	16.9	8.27	202	752,000	0.027
Glycol Ethers	0.008	0.034	0.017	0.413	--	--
Xylene	0.050	0.219	0.107	2.48	435,000	0.001

**Air Toxic Stacks**

Stack ID	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (EF)
SV001	24.0	3.0	15,255	70
SV002	24.0	3.0	15,255	70
SV004	24.0	3.0	15,255	70
SV005	24.0	3.0	15,255	70

(b) The air toxics are modeled at the potential emission rate. Due to limited emissions, the actual concentrations will be a lower percentage of the Permissible Exposure Limits (PEL) developed by the Occupational Safety and Health Administration (OSHA).

(c) See page 2 of 7 of attached spreadsheets for detailed air toxic calculations.

**Conclusion**

The construction of these fiberglass recreational vehicle parts manufacturing facilities will be subject to the conditions of the attached proposed **Construction Permit No. CP 039-9601-00493**.

**MINOR SOURCE SCREENING FORM**

**Construction Permit:** CP 039-9601-00493

**Company Name:** Global Glass, Inc.

**Location:** 58190 County Road 3, Elkhart, Indiana 46517

**Reviewer:** CarrieAnn Ortolani

**Modeler:** CarrieAnn Ortolani

Maximum Permitted Emission Rate (lb/hr)

Criteria Pollutants						Air Toxins		
Stack	PM <sub>10</sub>	CO	SO <sub>2</sub>	NO <sub>x</sub>	Pb	Styrene	Methyl methacrylate	MEK
						84.7	8.75	4.18
Demin	3.43	22.83	9.132	9.132	0.137	0.003	3.48	5.00

Parameters for each emission point and adjacent building. Convert from English to Metric (conversion factors):

[3.28 ft = 1 meter], [1 lb/hr = 0.126 g/s], [(5/9)\*(EFahrenheit)) + 255.38 = EKelvin]

Stack (no.)	Emission Rate (g/s)	Stack Height (m)	Stack Diameter (m)	Flow Rate (m/sec)	Stack Temp. (EK)	Building Height (m)	Building Width (m)	Building Length (m)	Closest Property Line (m)
SV001		7.31	0.914	11.0	294	6.40	67.1	146	91.0

Results (µg/m<sup>3</sup>)

Criteria Pollutants						Air Toxins		
Max. Conc.	PM <sub>10</sub>	CO	SO <sub>2</sub>	NO <sub>x</sub>	Pb	Styrene	Methyl methacrylate	MEK
1-Hour						6,316	649	311
3-Hour						5,685	584	280
8-Hour						4,421	455	218
24-Hour						2,526	260	124
Annual						505	51.9	24.9
OSHA PEL (µg/m <sup>3</sup> )						428,000	410,000	590,000

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**Modeler:** CarrieAnn Ortolani

Maximum Permitted Emission Rate (lb/hr)

Criteria Pollutants						Air Toxins		
Stack	PM <sub>10</sub>	CO	SO <sub>2</sub>	NO <sub>x</sub>	Pb	Dimethyl phthalate	MIBK	Lead
						0.869	2.04	0.057
Demin	3.43	22.83	9.132	9.132	0.137	0.042	1.74	0.0004

Parameters for each emission point and adjacent building. Convert from English to Metric (conversion factors):

[3.28 ft = 1 meter], [1 lb/hr = 0.126 g/s], [(5/9 \*(EFahrenheit)) + 255.38 = EKelvin]

Stack (no.)	Emission Rate (g/s)	Stack Height (m)	Stack Diameter (m)	Flow Rate (m/sec)	Stack Temp. (EK)	Building Height (m)	Building Width (m)	Building Length (m)	Closest Property Line (m)
SV001		7.31	0.914	11.0	294	6.40	67.1	146	91.0

Results (µg/m<sup>3</sup>)

Criteria Pollutants						Air Toxins		
Max. Conc.	PM <sub>10</sub>	CO	SO <sub>2</sub>	NO <sub>x</sub>	Pb	Dimethyl phthalate	MIBK	Lead
1-Hour						64.3	152	4.13
3-Hour						57.9	137	3.72
8-Hour						45.0	106	2.89
24-Hour						25.7	60.7	1.65
Annual						5.15	12.1	0.331
OSHA PEL (µg/m <sup>3</sup> )						5,000	410,000	50.0

**MINOR SOURCE SCREENING FORM**

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**Company Name:** Global Glass, Inc.

**Location:** 58190 County Road 3, Elkhart, Indiana 46517

**Reviewer:** CarrieAnn Ortolani

**Modeler:** CarrieAnn Ortolani

Maximum Permitted Emission Rate (lb/hr)

Criteria Pollutants						Air Toxins		
Stack	PM <sub>10</sub>	CO	SO <sub>2</sub>	NO <sub>x</sub>	Pb	Toluene	Glycol Ethers	Xylene
						3.87	0.008	0.050
Demin	3.43	22.83	9.132	9.132	0.137	3.18	--	3.68

Parameters for each emission point and adjacent building. Convert from English to Metric (conversion factors):

[3.28 ft = 1 meter], [1 lb/hr = 0.126 g/s], [(5/9 \*(EFahrenheit)) + 255.38 = EKelvin]

Stack (no.)	Emission Rate (g/s)	Stack Height (m)	Stack Diameter (m)	Flow Rate (m/sec)	Stack Temp. (EK)	Building Height (m)	Building Width (m)	Building Length (m)	Closest Property Line (m)
SV001		7.31	0.914	11.0	294	6.40	67.1	146	91.0

Results (µg/m<sup>3</sup>)

Criteria Pollutants						Air Toxins		
Max. Conc.	PM <sub>10</sub>	CO	SO <sub>2</sub>	NO <sub>x</sub>	Pb	Toluene	Glycol Ethers	Xylene
1-Hour						288	0.590	3.54
3-Hour						259	0.531	3.19
8-Hour						202	0.413	2.48
24-Hour						115	0.236	1.42
Annual						23.0	0.047	0.283
OSHA PEL (µg/m <sup>3</sup> )						752,000	--	435,000

Mail to: Permit Administration & Development Section  
Office of Air Management  
100 North Senate Avenue  
P.O. Box 6015  
Indianapolis, Indiana 46206-6015

Global Glass, Inc.  
28967 US 33 West  
Elkhart, Indiana 46516

**Affidavit of Construction**

I, \_\_\_\_\_, being duly sworn upon my oath, depose and say:  
(Name of the Authorized Representative)

1. I live in \_\_\_\_\_ County, Indiana and being of sound mind and over twenty-one (21) years of age, I am competent to give this affidavit.
2. I hold the position of \_\_\_\_\_ for \_\_\_\_\_  
(Title) (Company Name)
3. By virtue of my position with Global Glass, Inc., I have personal knowledge of the representations contained in this affidavit and am authorized to make these representations on behalf of Global Glass, Inc.
4. I hereby certify that Global Glass, Inc., 58190 County Road 3, Elkhart, Indiana 46517, has constructed the fiberglass recreational vehicle parts manufacturing facilities in conformity with the requirements and intent of the Construction Permit application received by the Office of Air Management on March 18, 1998 and as permitted pursuant to **Construction Permit No. 039-9601, Plant ID No. 039-00493** issued on \_\_\_\_\_.
5. Additional TYPEOFFACILITY were constructed/substituted as described in the attachment to this document and were not made in accordance with the Construction Permit. (Delete this statement if it does not apply.)
6. I hereby certify that Global Glass, Inc. submitted their Part 70 (T-039-7574-00208) application on December 12, 1996 for the existing source. The equipment being reviewed under this permit shall be incorporated in the submitted Part 70 application.

Further Affiant said not.

I affirm under penalties of perjury that the representations contained in this affidavit are true, to the best of my information and belief.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

STATE OF INDIANA)  
)SS

COUNTY OF \_\_\_\_\_)

Subscribed and sworn to me, a notary public in and for \_\_\_\_\_ County and State of Indiana  
on this \_\_\_\_\_ day of \_\_\_\_\_, 19 \_\_\_\_\_.

My Commission expires: \_\_\_\_\_.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Name (typed or printed)

**Appendix A: Emissions Calculations  
Form DD: Reinforced Plastics and Composites  
Fiberglass Processes**

Company Name: **Global Glass, Inc.**  
Address City IN Zip: **58190 County Road 3, Elkhart, Indiana 46517**  
CP: **039-9601**  
Plt ID: **039-00493**  
Reviewer: **CarrieAnn Ortolani**  
Date: **March 18, 1998**

Material	Density (lb/gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Gallons per unit	Units per hour	Pound VOC per Hour	Pounds VOC per Day	Tons of VOC per Year	Tons of PM per Year	Emission Factor (Flash off)	Transfer Efficiency
<b>Custom Parts</b>												
Worst Case Resin (SV002)	9.05	52.71%	0.00%	52.71%	4.75	15.00	25.8	618	113	334	7.58%	75%
Worst Case Gelcoat (SV001)	8.32	65.05%	0.00%	65.05%	1.10	15.00	13.7	328	59.8	52.5	15.3%	75%
Catalyst (SV001/SV002)	9.04	100.00%	1.50%	98.50%	0.010	15.00	1.34	32.1	5.85	0.00	100%	75%
Acetone Cleaner	6.61	100.00%	100.00%	0.00%	0.150	15.00	0.00	0.00	0.00	0.00	100%	100%
Pure Lacquer Primer	7.01	100.00%	40.00%	60.00%	0.004	15.00	0.25	6.06	1.11	0.00	100%	75%
Mold Release	7.27	98.00%	0.00%	98.00%	0.001	15.00	0.11	2.56	0.47	0.002	100%	75%
<b>Flat Panel</b>												
Worst Case Resin Recip. (SV005)	9.05	52.71%	0.00%	52.71%	19.50	5.00	35.3	846	154	457	7.58%	75%
Worst Case Gelcoat Recip. (SV004)	8.32	65.05%	0.00%	65.05%	5.20	5.00	21.5	517	94.3	82.8	15.3%	75%
Catalyst (SV004/SV005)	9.04	100.00%	1.50%	98.50%	0.03	5.00	1.34	32.1	5.85	0.00	100%	75%
Acetone Cleaner	6.61	100.00%	100.00%	0.00%	0.15	5.00	0.00	0.00	0.00	0.00	100%	100%
Mold Release	7.27	98.00%	0.00%	98.00%	0.15	5.00	5.34	128	23.4	0.12	100%	75%
<b>Resins</b>												
Stypol 040-4341	9.04	39.10%	0.00%	39.10%	8.44	20.00	45.2	1085	198	1018	7.58%	75%
Stypol 040-4342	9.04	39.10%	0.00%	39.10%	8.44	20.00	45.2	1085	198	1018	7.58%	75%
Stypol 040-4365	9.23	35.32%	0.00%	35.32%	8.44	20.00	41.7	1001	183	1103	7.58%	75%
Green Tooling	9.05	52.71%	0.00%	52.71%	8.44	20.00	61.0	1465	267	791	7.58%	75%
Black Tooling	9.12	46.77%	0.00%	46.77%	8.44	20.00	54.6	1310	239	897	7.58%	75%
<b>Gelcoats</b>												
GH1-5204 White	10.8	30.00%	0.00%	30.00%	2.13	20.00	21.1	506	92	352	15.3%	75%
767 Pb 1000 Patch booster	8.32	65.05%	0.00%	65.05%	2.13	20.00	35.2	845	154	135	15.3%	75%
GH1-5113 White	10.8	35.16%	0.00%	35.16%	2.13	20.00	24.7	593	108	326	15.3%	75%
GH1-5239 Dutchman White	11.3	29.42%	0.00%	29.42%	2.13	20.00	21.7	521	95	372	15.3%	75%
GH8-5015 Damon Gray	10.8	32.00%	0.00%	32.00%	2.13	20.00	22.5	539	98	342	15.3%	75%
GP6-5008 Black Primer Gel	10.0	40.67%	0.00%	40.67%	2.13	20.00	26.6	637	116	277	15.3%	75%
Fourseal Primer	10.4	35.81%	0.00%	35.81%	2.13	20.00	24.3	583	106	312	15.3%	75%
Elgin (Isuzu) White	11.4	32.65%	0.00%	32.65%	2.13	20.00	24.1	579	106	356	15.3%	75%
GH1-5180 GS Polar White	11.7	29.00%	0.00%	29.00%	2.13	20.00	22.1	530	97	387	15.3%	75%
Clear Fourgard	9.17	30.00%	3.00%	27.00%	2.13	20.00	16.1	386	71	299	15.3%	75%
Keystone White	11.4	29.22%	0.00%	29.22%	2.13	20.00	21.6	518	95	375	15.3%	75%
Orange Roofing Gel coat	8.81	48.10%	0.00%	48.10%	2.13	20.00	27.6	661	121	213	15.3%	75%
<b>Catalyst</b>												
Catalyst DDM 9	9.04	100.00%	1.50%	98.50%	0.015	20.00	2.67	64.1	11.7	0.00	100%	75%
<b>Mold Release</b>												
#1460 Liquid Mold Release	7.27	98.00%	0.00%	98.00%	0.038	20.00	5.41	130	23.7	0.12	100%	75%
<b>Gun Cleaning</b>												
Acetone	6.60	100.00%	100.00%	0.00%	0.15	20.00	0.00	0.00	0.00	0.00	100%	100%
<b>Additional Materials Used</b>												
<b>Wax</b>												
Supreme Paste Wax	6.42	70.00%	0.00%	70.00%	0.00015	15.00	0.01	0.24	0.04	0.00	100%	100%
<b>Cleaning</b>												
S-0280 Super Flush	8.86	100.00%	0.00%	100.00%	1.018	1.00	9.02	216.4	39.49	0.00	100%	100%
Super Blue Resin Cleaner	8.76	100.00%	0.00%	100.00%	0.275	1.00	2.41	57.8	10.55	0.00	100%	100%
<b>Spray Release</b>												
BH-38	8.72	95.00%	0.00%	95.00%	0.015	1.00	0.12	2.98	0.54	0.00	100%	100%
<b>Totals:</b>							<b>116</b>	<b>2787</b>	<b>509</b>	<b>1490</b>		
<b>Tanks:</b>							<b>0.012</b>	<b>0.283</b>	<b>0.052</b>	<b>0.052</b>		
<b>Total:</b>							<b>116</b>	<b>2788</b>	<b>509</b>	<b>1490</b>		

The top bold sections represent the worst case materials for VOC emissions.  
Worst case materials for PM are in bold in their appropriate categories.  
The bottom bold section represents all additional materials.

Control Technology Emissions (Combustion)															
Type	Number	Capacity MMBtu/hr	Gas usage MMBtu/yr	PM lb/MMCF	PM10 lb/MMCF	SO2 lb/MMCF	NOx lb/MMCF	VOC lb/MMCF	CO lb/MMCF	PM tons/yr	PM10 tons/yr	Emissions SO2 tons/yr	NOx tons/yr	VOC tons/yr	CO tons/yr
Catalytic			0.0	3.0	3.0	0.6	100.0	5.3	35.0	0.0	0.0	0.0	0.0	0.0	0.0
Thermal			0.0	3.0	3.0	0.6	140.0	2.8	20.0	0.0	0.0	0.0	0.0	0.0	0.0
Total			0.0							0.0	0.0	0.0	0.0	0.0	0.0
										Control Efficiency	Controlled VOC pounds per hour	Controlled VOC pounds per day	Controlled VOC tons/yr	Controlled Particulate tons/yr	
										dry filters	0	0.985			
											<b>116</b>	<b>2787</b>	<b>509</b>	<b>22.4</b>	

Controlled Emissions due to Surface Coating Operations and Controls

**METHODOLOGY**

Potential VOC Pounds per Hour = Density (lb/gal) \* Weight % Monomer \* Gal of Material (gal/unit) \* Maximum (unit/hr) \* Emission factor  
 Potential VOC Pounds per Day = Density (lb/gal) \* Weight % Monomer \* Gal of Material (gal/unit) \* Maximum (unit/hr) \* (24 hrs / 1 day) \* Emission factor  
 Potential VOC Tons per Year = Density (lb/gal) \* Weight % Monomer \* Gal of Material (gal/unit) \* Maximum (unit/hr) \* (8760 hr/yr) \* (1 ton / 2000 lbs) \* Emission factor  
 Particulate Potential Tons per Year = (units/hour) \* (gal/unit) \* (lbs/gal) \* (1 - Weight % Volatiles) \* (1 - Transfer efficiency) \* (8760 hr/yr) \* (1 ton / 2000 lbs)  
 Total = Worst Coating + Sum of all solvents used  
 Default Emission Factor for Spray Layout of resin is 25.9%  
 Default Emission Factor for Spray Layout of gelcoat is 52.1%

HAP Emission Calculations

Company Name: Global Glass, Inc.  
 Address City IN Zip: 58190 County Road 3, Elkhart, Indiana 46517  
 CP: 039-9601  
 Pit ID: 039-00493  
 Reviewer: CarrieAnn Ortolani  
 Date: March 18, 1998

Material	Density (lb/gal)	Gal of Mat (gal/unit)	Maximum (unit/hour)	Flash-off (fraction)	Weight % Styrene	Weight % methyl Methacrylate	Weight % MEK	Weight % Dimethyl Phthalate	Weight % MIBK	Weight % Lead	Weight % Toluene	Weight % Glycol Ethers	Weight % Xylene	Styrene Emissions (tons/yr)	methyl Methacrylate Emissions (tons/yr)	MEK Emissions (tons/yr)	Dimethyl Phthalate Emissions (tons/yr)	MIBK Emissions (tons/yr)	Lead Emissions (tons/yr)	Toluene Emissions (tons/yr)	Glycol Ethers Emissions (tons/yr)	Xylene Emissions (tons/yr)	Total HAP Emissions (tons/yr)	
<b>Primer</b>																								
Pure Lacquer Primer	7.01	0.004	15.00	100%	0.00%	0.00%	5.00%	0.00%	0.00%	0.00%	0.00%	0.00%	10.00%	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.28
<b>Resins</b>																								
Stypol 040-4341	9.04	8.44	20.00	7.58%	39.10%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	198	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	198
Stypol 040-4342	9.04	8.44	20.00	7.58%	39.10%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	198	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	198
Stypol 040-4365	9.23	8.44	20.00	7.58%	35.32%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	183	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	183
Green Tooling	9.05	8.44	20.00	7.58%	42.71%	5.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	217	25.4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	242
Black Tooling	9.12	8.44	20.00	7.58%	42.40%	4.37%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	217	22.3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	239
<b>Gelcoats</b>																								
GH1-5204 White	10.8	2.13	20.00	15.3%	30.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	92.3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	92.3
767 Pb 1000 Patch booster	8.32	2.13	20.00	15.3%	64.90%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	154	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	154
GH1-5113 White	10.8	2.13	20.00	15.3%	32.00%	4.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	98.4	12.3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	111
GH1-5239 Dutchman White	11.3	2.13	20.00	15.3%	29.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	93.7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	93.7
GH8-5015 Damon Gray	10.8	2.13	20.00	15.3%	32.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	98.4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	98.4
GP6-5008 Black Primer Gel	10.0	2.13	20.00	15.3%	37.46%	3.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	107	8.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	116
Fourseal Primer	10.4	2.13	20.00	15.3%	25.93%	0.00%	6.00%	0.00%	3.00%	0.00%	0.00%	0.00%	0.00%	77.1	0.00	17.8	0.00	8.92	0.00	0.00	0.00	0.00	0.00	104
Elgin (Isuzu) White	11.4	2.13	20.00	15.3%	27.71%	4.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	89.6	12.9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	103
GH1-5180 GS Polar White	11.7	2.13	20.00	15.3%	29.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	96.6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	96.6
Clear Fourgard	9.17	2.13	20.00	15.3%	21.00%	0.00%	3.00%	0.00%	3.00%	0.00%	0.00%	0.00%	0.00%	54.8	0.00	7.84	0.00	7.84	0.00	0.00	0.00	0.00	0.00	70.5
Keystone White	11.4	2.13	20.00	15.3%	28.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	93.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	93.5
Orange Roofing Gel coat	8.81	2.13	20.00	15.3%	45.40%	0.00%	0.00%	0.00%	0.00%	0.10%	0.00%	0.00%	0.00%	114	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00	114
<b>Catalyst</b>																								
Catalyst DDM 9	9.04	0.015	20.00	100%	0.00%	0.00%	3.00%	32.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.36	3.80	0.00	0.00	0.00	0.00	0.00	0.00	4.16
<b>Mold Release</b>																								
#1460 Liquid Mold Release	7.27	0.038	20.00	100%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	70.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.9	0.00	0.00	16.9
<b>Gun Cleaning</b>																								
Acetone	6.60	0.15	20.00	100%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Additional Materials Used</b>																								
<b>Wax</b>																								
Supreme Paste Wax	6.42	0.00015	15.00	100%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Cleaning</b>																								
S-0280 Super Flush	8.86	1.018	1.00	100%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Super Blue Resin Cleaner	8.76	0.275	1.00	100%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Spray Release</b>																								
BH-38	8.72	0.015	1.00	100%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	6.00%	6.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.07

Total State Potential Emissions

<b>TOTALS:</b>	<b>(tons/yr):</b>	<b>370</b>	<b>38.3</b>	<b>18.3</b>	<b>3.80</b>	<b>8.92</b>	<b>0.251</b>	<b>16.9</b>	<b>0.034</b>	<b>0.219</b>	<b>417</b>
	<b>(lb/hr):</b>	<b>84.7</b>	<b>8.75</b>	<b>4.18</b>	<b>0.869</b>	<b>2.04</b>	<b>0.057</b>	<b>3.87</b>	<b>0.008</b>	<b>0.050</b>	<b>95.3</b>
	<b>(g/sec):</b>	<b>10.7</b>	<b>1.10</b>	<b>0.527</b>	<b>0.109</b>	<b>0.257</b>	<b>0.007</b>	<b>0.488</b>	<b>0.001</b>	<b>0.006</b>	<b>12.0</b>

METHODOLOGY

HAPS emission rate (tons/yr) = Density (lb/gal) \* Gal of Material (gal/unit) \* Maximum (unit/hr) \* Weight % HAP \* 8760 hrs/yr \* 1 ton/2000 lbs

**Appendix A: Emission Calculations  
Grinding Operations**

**Company Name:** Global Glass, Inc.  
**Address City IN Zip:** 58190 County Road 3, Elkhart, Indiana 46517  
**CP:** 039-9601  
**Plt ID:** 039-00493  
**Reviewer:** CarrieAnn Ortolani  
**Date:** March 18, 1998

Control Efficiency\*

98.5%

Emission Rates at the new source.

Facility	Potential Process weight rate of new booth (lbs/hr)	Potential Emissions from similar source (tons PM/ yr)	Process weight rate from similar source (lbs/hr)	Emission Factor (lbs PM /lb grinded)	PM Emission Rate before Controls (lbs/hr)	PM Emission Rate before Controls (tons/yr)	PM Emission Rate after Controls (lb/hr)	PM Emission Rate after Controls (tons/yr)
SV 003	1525.4	8.76	420	0.0048	7.26	31.8	0.109	0.477
<b>Total</b>	1525.4				<b>7.26</b>	<b>31.8</b>	<b>0.109</b>	<b>0.477</b>

\*The control efficiency listed is the efficiency of a dry filter. The source may simultaneously operate a water wash system with a control efficiency of 95%.

**Methodology**

Emission Factor in lbs of PM/ lbs grinded = PM potential emissions of the similar Global Glass, Inc. source (tons /yr) \* (2000 lbs/ton / 8760 hrs/yr) / process weight rate of similar source (lbs /hr)

Emission Rate at new source before controls in lbs/hr = process weight rate (lbs/hr) \* Emission Factor (lbs of PM /lb grinded)

Emission Rate in lbs/hr (after controls) = Emission Rate (before controls) \* (1-control efficiency)

Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)

**Allowable Rate of Emissions**

Facility	Process Weight Rate (lbs/hr)	Process Weight Rate (tons/hr)	Allowable Emissions (lbs/hr)	Maximum Allowable Emissions (tons/yr)
SV 003	1525.4	0.763	3.42	15.0

**Methodology**

Allowable Emissions = 4.10(Process Weight Rate)<sup>0.67</sup>

**Appendix A: Emission Calculations  
Woodworking Operations**

**Company Name: Global Glass, Inc.**  
**Address City IN Zip: 58190 County Road 3, Elkhart, Indiana 46517**  
**CP: 039-9601**  
**Plt ID: 039-00493**  
**Reviewer: CarrieAnn Ortolani**  
**Date: March 18, 1998**

\*Control Efficiency  
 93.00%

Facility	Pollutant	Grain Loading per Actual Cubic foot of Outlet Air (grains/acfm)	Flow Rate (acfm)	PM Emission Rate before Controls (lb/hr)	PM Emission Rate before Controls (tons/yr)	PM Emission Rate after Controls (lb/hr)	PM Emission Rate after Controls (tons/yr)
woodworking	TSP	0.0278	2850	9.70	42.5	0.679	2.97
<b>Total</b>	PM10	0.0278	2850	9.70	42.5	0.679	2.97

\*Potential emissions are calculated using the parameters if only the cyclone is installed since the small drum bag collection system parameters are unknown at this time. The source will install a small drum bag collection system and may install the cyclone in addition.

**Emissions after control by the small drum bag collection system.**

Facility	Pollutant	Emission Rate before Controls (lb/hr)	Emission Rate before Controls (tons/yr)	Control Efficiency drum collection system (%)	PM Emission Rate after Controls (lb/hr)	PM Emission Rate after Controls (tons/yr)
woodworking	TSP	9.70	42.5	95.0	0.485	2.12
<b>Total</b>	PM10	9.70	42.5	95.0	0.485	2.12

**Methodology**

Emission Factor in lbs of PM/ lbs grinded = PM potential emissions of the initial source (tons /yr) \* (2000 lbs/ton / 8760 hrs/yr) / process weight rate of initial source (lbs /hr)  
 Emission Rate of expansion before controls in lbs/hr = process weight rate (lbs/hr) \* Emission Factor (lbs of PM /lb grinded)  
 Emission Rate in lbs/hr (after controls) = Emission Rate (before controls) \* (1-control efficiency)  
 Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)

**Allowable Rate of Emissions**

Facility	Process Weight Rate (lbs/hr)	Process Weight Rate (tons/hr)	Allowable Emissions (lbs/hr)	Maximum Allowable Emissions (tons/yr)
woodworking	168	0.084	0.780	3.42

**Methodology**

Allowable Emissions = 4.10(Process Weight Rate)^0.67

**Appendix A: Emission Calculations  
 Natural Gas Combustion Only  
 MM Btu/hr 0.3 - < 10  
 Two (2) Air Make Up Units**

**Company Name: Global Glass, Inc.  
 Address City IN Zip: 58190 County Road 3, Elkhart, Indiana 46517  
 CP: 039-9601  
 Plt ID: 039-00493  
 Reviewer: CarrieAnn Ortolani  
 Date: March 18, 1998**

Total Heat Input Capacity  
 MMBtu/hr

Potential Throughput  
 MMCF/yr

6.16

54.0

	Pollutant					
Emission Factor in lb/MMCF	PM 12.0	PM10 12.0	SO2 0.6	NOx 100.0	VOC 5.3	CO 21.0
Potential Emission in tons/yr	0.324	0.324	0.016	2.70	0.143	0.567

**Methodology**

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Emission Factors for NOx: uncontrolled = 100, Low NOx Burner = 17, Flue gas recirculation = 36

Emission Factors for CO: uncontrolled = 21, Low NOx Burner = 27, Flue gas recirculation = ND

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-03-006-03

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

**Appendix A: Emission Calculations  
 Natural Gas Combustion Only  
 MM Btu/hr < 0.3  
 Twenty-four (24) Forced Air Heaters**

**Company Name:** Global Glass, Inc.  
**Address City IN Zip:** 58190 County Road 3, Elkhart, Indiana 46517  
**CP:** 039-9601  
**Plt ID:** 039-00493  
**Reviewer:** CarrieAnn Ortolani  
**Date:** March 18, 1998

Total Heat Input Capacity  
 MMBtu/hr

Potential Throughput  
 MMCF/yr

2.40

21.02

Emission Factor in lb/MMCF	Pollutant					
	PM	PM10	SO2	NOx	VOC	CO
	11.2	11.2	0.6	94.0	7.3	40.0
Potential Emission in tons/yr	0.118	0.118	0.006	0.988	0.077	0.420

**Methodology**

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Emission Factors for NOx: uncontrolled = 94

Emission Factors for CO: uncontrolled = 40

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3.

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

**Appendix A: Emission Factor Calculations  
VOC  
From Fiberglass Operations**

**Company Name: Global Glass, Inc.  
Address City IN Zip: 58190 County Road 3  
CP: 039-8384  
Plt ID: 039-00208  
Reviewer: CarrieAnn Ortolani  
Date: March 27, 1997**

**CFA Emission Model for the Reinforced Plastics Industries - 1 Variable**

February 28, 1998

APPLICATION METHOD	Current Monomer Content (%)	New Monomer Content (%)	Monomer Factor (%)	Vapor Suppressant Factor (%)	Controlled Spraying or (%)	Non-Atom Equipment Factor (%)	Add-on Control Factor (%)	% of Add-on Control (%)	Current Emission Factor (lb/ton)	New Emission Factor (lb/ton)	New Emission Factor (% resin)
Mechanical Resin	44.0%	39.0%	73.4% n	100% y	77% n	100%	95%	0%	268	152	7.58%
Gelcoat Spray	44.0%	39.0%	80.1%	n/a	y	73% n	n/a	95%	522	305	15.3%