**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT**
*We Protect Hoosiers and Our Environment.*

*Mitchell E. Daniels Jr.*
**Governor**

*Thomas W. Easterly*
**Commissioner**

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
**www.idem.IN.gov**

TO: Interested Parties / Applicant

DATE: September 9, 2010

RE: Frontline Manufacturing, Inc. / 085-28963-00077

FROM: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

# Notice of Decision: Approval – Effective Immediately

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

If you wish to challenge this decision, IC 4-21.5-3-7 and IC 13-15-7-3 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204, **within eighteen (18) 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.



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Pursuant to 326 IAC 2-7-18(d), any person may petition the U.S. EPA to object to the issuance of a Title V operating permit or modification within sixty (60) days of the end of the forty-five (45) day EPA review period. Such an objection must be based only on issues that were raised with reasonable specificity during the public comment period, unless the petitioner demonstrates that it was impractible to raise such issues, or if the grounds for such objection arose after the comment period.

To petition the U.S. EPA to object to the issuance of a Title V operating permit, contact:

U.S. Environmental Protection Agency
401 M Street
Washington, D.C. 20406

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
FNTV-PMOD.doc 3/27/08

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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**www.idem.IN.gov**


Mr. Raymond Doss
Frontline Manufacturing, Inc.
PO Box 176
Leesburg, IN 46538

September 9,2010

Re: 085-28963-00077
Significant Permit Modification to
Part 70 Renewal No.: T085-18852-00077

Dear Mr. Doss:

Frontline Manufacturing, Inc. was issued a Part 70 Operating Permit Renewal on December 31, 2007 for a stationary fiberglass products (shower tubs) manufacturing operation. A letter requesting changes to this permit was received on February 8, 2010. Pursuant to the provisions of 326 IAC 2-7-12 a significant permit modification to this permit is hereby approved as described in the attached Technical Support Document.

The modification consists of a re-evaluation of the 326 IAC 8-1-6 BACT requirements for the resin and gel coat application booths.

For your convenience, the entire Part 70 Operating Permit as modified will be provided at issuance.

This decision is subject to the Indiana Administrative Orders and Procedures Act – IC 4-21.5-3-5. If you have any questions on this matter, please contact Laura Spriggs, OAQ, 100 North Senate Avenue, MC 61-53 1003 IGCN, Indianapolis, Indiana, 46204-2251, or call at (800) 451-6027, and ask for Laura Spriggs or extension (3-5693), or dial (317) 233-5693.

Sincerely,

Matthew Stuckey, Chief
Permits Branch
Office of Air Quality

Attachments

MS/lss

cc: File – Kosciusko County
Kosciusko County Health Department
U.S. EPA, Region V
IDEM Northern Regional Office
Compliance and Enforcement Branch

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# Part 70 Operating Permit Renewal
# OFFICE OF AIR QUALITY

## Frontline Manufacturing, Inc.
## 2466 North, 200 West,
## Warsaw, Indiana 46580

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

**The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. Noncompliance with any provision of this permit, except any provision specifically designated as not federally enforceable, constitutes a violation of the Clean Air Act. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in Section B, Emergency Provisions.**

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 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.: T085-18852-00077 | |
|---|---|
| Issued by: Original Signed by:<br><br>Matthew Stuckey, Deputy Branch Chief<br>Permits Branch<br>Office of Air Quality | Issuance Date: December 31, 2007<br><br>Expiration Date: December 31, 2012 |

| First Significant Permit Modification No.: 085-28963-00077 | |
|---|---|
| Issued by:<br><br>Matthew Stuckey, Branch Chief<br>Permits Branch<br>Office of Air Quality | Issuance Date: September 9,2010<br><br>Expiration Date: December 31, 2012 |

# TABLE OF CONTENTS

**A. SOURCE SUMMARY**

A.1 General Information [326 IAC 2-7-4(c)][326 IAC 2-7-5(15)][326 IAC 2-7-1(22)]
A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]
A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]
A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

**B. GENERAL CONDITIONS**

B.1 Definitions [326 IAC 2-7-1]
B.2 Permit Term [326 IAC 2-7-5(2)][326 IAC 2-1.1-9.5][326 IAC 2-7-4(a)(1)(D)] [IC 13-15-3-6(a)]
B.3 Term of Conditions [326 IAC 2-1.1-9.5]
B.4 Enforceability [326 IAC 2-7-7]
B.5 Severability [326 IAC 2-7-5(5)]
B.6 Property Rights or Exclusive Privilege [326 IAC 2-7-5(6)(D)]
B.7 Duty to Provide Information [326 IAC 2-7-5(6)(E)]
B.8 Certification [326 IAC 2-7-4(f)][326 IAC 2-7-6(1)][326 IAC 2-7-5(3)(C)]
B.9 Annual Compliance Certification [326 IAC 2-7-6(5)]
B.10 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)][326 IAC 2-7-6(1) and (6)] [326 IAC 1-6-3]
B.11 Emergency Provisions [326 IAC 2-7-16]
B.12 Permit Shield [326 IAC 2-7-15][326 IAC 2-7-20][326 IAC 2-7-12]
B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5][326 IAC 2-7-10.5]
B.14 Termination of Right to Operate [326 IAC 2-7-10][326 IAC 2-7-4(a)]
B.15 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-7-5(6)(C)][326 IAC 2-7-8(a)][326 IAC 2-7-9]
B.16 Permit Renewal [326 IAC 2-7-3][326 IAC 2-7-4][326 IAC 2-7-8(e)]
B.17 Permit Amendment or Modification [326 IAC 2-7-11][326 IAC 2-7-12]
B.18 Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-7-5(8)] [326 IAC 2-7-12(b)(2)]
B.19 Operational Flexibility [326 IAC 2-7-20][326 IAC 2-7-10.5]
B.20 Source Modification Requirement [326 IAC 2-7-10.5]
B.21 Inspection and Entry [326 IAC 2-7-6][IC 13-14-2-2][IC 13-30-3-1][IC 13-17-3-2]
B.22 Transfer of Ownership or Operational Control [326 IAC 2-7-11]
B.23 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)][326 IAC 2-1.1-7]
B.24 Credible Evidence [326 IAC 2-7-5(3)][326 IAC 2-7-6][62 FR 8314] [326 IAC 1-1-6]

**C. SOURCE OPERATION CONDITIONS**

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour [326 IAC 6-3-2]
C.2 Opacity [326 IAC 5-1]
C.3 Open Burning [326 IAC 4-1] [IC 13-17-9]
C.4 Incineration [326 IAC 4-2] [326 IAC 9-1-2]
C.5 Fugitive Dust Emissions [326 IAC 6-4]
C.6 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

**Testing Requirements [326 IAC 2-7-6(1)]**

C.7 Performance Testing [326 IAC 3-6]

**Compliance Requirements [326 IAC 2-1.1-11]**
C.8 Compliance Requirements [326 IAC 2-1.1-11]

**Compliance Monitoring Requirements [326 IAC 2-7-5(1)][326 IAC 2-7-6(1)]**
C.9 Compliance Monitoring [326 IAC 2-7-5(3)][326 IAC 2-7-6(1)]
C.10 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

**Corrective Actions and Response Steps [326 IAC 2-7-5][326 IAC 2-7-6]**
C.11 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]
C.12 Risk Management Plan [326 IAC 2-7-5(12)] [40 CFR 68]
C.13 Response to Excursions or Exceedances [326 IAC 2-7-5] [326 IAC 2-7-6]
C.14 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**
C.15 Emission Statement [326 IAC 2-7-5(3)(C)(iii)] [326 IAC 2-7-5(7)] [326 IAC 2-7-19(c)] [326 IAC 2-6]
C.16 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6]
C.17 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11]

**Stratospheric Ozone Protection**
C.18 Compliance with 40 CFR 82 and 326 IAC 22-1

**D.1. EMISSIONS UNIT OPERATION CONDITIONS - Fiberglass Manufacturing Operation**

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**
D.1.1 Volatile Organic Compounds (VOC) [326 IAC 8-1-6] [326 IAC 20-56]
D.1.2 PSD Minor Limit [326 IAC 2-2]
D.1.3 Particulate [326 IAC 6-3-2(d)]
D.1.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

**Compliance Determination Requirements**
D.1.5 Volatile Organic Compounds (VOC)
D.1.6 Particulate Control

**Compliance Monitoring Requirements [326 IAC 2-7-5(1)][326 IAC 2-7-6(1)]**
D.1.7 Monitoring [40 CFR 64]

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**
D.1.8 Record Keeping Requirements
D.1.9 Reporting Requirements

**D.2. EMISSIONS UNIT OPERATION CONDITIONS - Trimming**

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**
D.2.1 Particulate [326 IAC 6-3-2]

**E.1 SOURCE OPERATION CONDITIONS - NESHAP, Subpart WWWW**
E.1.1 General Provisions Relating to NESHAP WWWW [326 IAC 20-1] [40 CFR Part 63, Subpart A]
E.1.2 Reinforced Plastic Composites Production NESHAP [40 CFR Part 63, Subpart WWWW]

Certification
Emergency Occurrence Report
Quarterly Report
Quarterly Deviation and Compliance Monitoring Report40

Attachment A: 40 CFR 63, Subpart WWWW

## 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)][326 IAC 2-7-1(22)]

The Permittee owns and operates a stationary fiberglass products (shower tubs) manufacturing operation.

| | |
|---|---|
| Source Address: | 2466 North, 200 West, Warsaw, Indiana 46580 |
| General Source Phone Number: | 574-453-2902 |
| SIC Code: | 3088 |
| County Location: | Kosciusko |
| Source Location Status: | Attainment for all criteria pollutants |
| Source Status: | Part 70 Operating Permit Program<br>Minor Source, under PSD Rules<br>Major Source, under Section 112 of the Clean Air Act<br>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)]

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

(a) One (1) fiberglass production line, identified as Line 1, installed in February 1998, with a maximum production rate of 15 fiberglass units per hour, including:

(1) One (1) chop resin application booth, consisting of one (1) non-atomized fluid impingement chop gun, identified as SG1, exhausting to one (1) stack identified as SG1X. The booth is also equipped with dry filters for particulate control.

(2) One (1) gel coat application booth, identified as SG3, consisting of two (2) stationary non-atomized fluid impingement applicators, installed in February 1998, and two (2) portable non-atomized fluid impingement applicators, installed in 2003, using a maximum of two applicators at a time, exhausting to one (1) stack identified as SG3X. The booth is also equipped with dry filters for particulate control.

(b) One (1) fiberglass production line, identified as Line 2, installed in July 1999, with a maximum production rate of 30 fiberglass units per hour, including:

(1) One (1) chop resin application booth, consisting of two (2) non-atomized fluid impingement chop guns, identified as SG7 and SG8, producing up to 30 fiberglass units per hour per gun, and exhausting to three (3) stacks identified as SG7X, SG8X and SG9X. The booth is also equipped with dry filters for particulate control.

(2) One (1) gel coat application booth, identified as SG5, consisting of two (2) stationary non-atomized fluid impingement applicators and two (2) portable non-atomized fluid impingement applicators, using two applicators at a time, exhausting to one (1) stack identified as SG5X. The booth is also equipped with

dry filters for particulate control.

Under 40 CFR 63, Subpart WWWW, this reinforced plastic composites production plant is considered an existing affected source.

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

(a) Cleaners and solvents characterized as follows:

(1) having a vapor pressure equal to or less than 2 kPa; 15mm Hg; or 0.3 psi measured at 38°C (100°F) or;

(2) having a vapor pressure equal to or less than 0.7 kPa; 5mm Hg; or 0.1 psi measured at 20°C (68°F);

the use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months. [40 CFR Part 63, Subpart WWWW] [326 IAC 20-56] [40 CFR Part 63, Subpart PPPP] [326 IAC 20-81];

(b) Mold release agents using low volatile products (vapor pressure less than or equal to 2 kilopascals (kPa) measured at 38 degrees C). [40 CFR Part 63, Subpart WWWW] [326 IAC 20-56]; and

(c) Other activities and categories with emissions below insignificant thresholds:

(1) One (1) Mold Repair area, constructed in 1998, using a brush and/or an aerosol sprayer dipped in Dixie Cup of resin or gel coat for minor gel coat mixing and touch-up of resin and gel coat [40 CFR Part 63, Subpart WWWW] [326 IAC 20-56];

(2) One (1) minor touch-up repair using aerosol cans [40 CFR Part 63, Subpart WWWW] [326 IAC 20-56];

(3) Two (2) resin mix tank for mixing resin with inert ingredients [40 CFR Part 63, Subpart WWWW] [326 IAC 20-56];

(4) One (1) minor usage of sealers, buffing compounds, waxes, primers, and wood glues [40 CFR Part 63, Subpart WWWW] [326 IAC 20-56];

(d) Two (2) trim booths, identified as T1 and T2, each constructed in 1998, each using one (1) cartridge filter system for particulate control, not exhausting to a stack. Filtered air from the control device is re-circulated into the grinding booth, where the units are located. Each trim booth consists of:

(1) Two (2) trimmer saws, each with a each with a throughput capacity of 969 pounds per hour; and

(2) Two (2) hand grinders, each with a throughput capacity of 969 pounds per hour [326 IAC 6-3-2].

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

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 B GENERAL CONDITIONS

### B.1 Definitions [326 IAC 2-7-1]

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-7) shall prevail.

### B.2 Permit Term [326 IAC 2-7-5(2)][326 IAC 2-1.1-9.5][326 IAC 2-7-4(a)(1)(D)][IC 13-15-3-6(a)]

(a) This permit, T085-18852-00077, is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.

(b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, including any permit shield provided in 326 IAC 2-7-15, until the renewal permit has been issued or denied.

### B.3 Term of Conditions [326 IAC 2-1.1-9.5]

Notwithstanding the permit term of a permit to construct, a permit to operate, or a permit modification, any condition established in a permit issued pursuant to a permitting program approved in the state implementation plan shall remain in effect until:

(a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or

(b) the emission unit to which the condition pertains permanently ceases operation.

### B.4 Enforceability [326 IAC 2-7-7] [IC 13-17-12]

Unless otherwise stated, all terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM, the United States Environmental Protection Agency (U.S. EPA) and by citizens in accordance with the Clean Air Act.

### B.5 Severability [326 IAC 2-7-5(5)]

The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

### B.6 Property Rights or Exclusive Privilege [326 IAC 2-7-5(6)(D)]

This permit does not convey any property rights of any sort or any exclusive privilege.

### B.7 Duty to Provide Information [326 IAC 2-7-5(6)(E)]

(a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.

(b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

### B.8 Certification [326 IAC 2-7-4(f)][326 IAC 2-7-6(1)][326 IAC 2-7-5(3)(C)]

(a) A certification required by this permit meets the requirements of 326 IAC 2-7-6(1) if:

(i) it contains a certification by a "responsible official" as defined by 326 IAC 2-7-1(34), and

(ii) the certification states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) The Permittee may use the attached Certification Form, or its equivalent with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.

(c) A "responsible official" is defined at 326 IAC 2-7-1(34).

B.9 Annual Compliance Certification [326 IAC 2-7-6(5)]

(a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. All certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted no later than July 1 of each year to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

(b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

(c) The annual compliance certification report shall include the following:

(1) The appropriate identification of each term or condition of this permit that is the basis of the certification;

(2) The compliance status;

(3) Whether compliance was continuous or intermittent;

(4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-7-5(3); and

(5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ may require to determine the compliance status of the source.

The submittal by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

B.10 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)][326 IAC 2-7-6(1) and (6)][326 IAC 1-6-3]

(a) A Preventive Maintenance Plan meets the requirements of 326 IAC 1-6-3 if it includes, at a minimum:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

The Permittee shall implement the PMPs.

(b) If required by specific condition(s) in Section D of this permit where no PMP was previously required, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this permit or ninety (90) days after initial start-up, whichever is later, including the following information on each facility:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Permittee’s control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The PMP extension notification does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

The Permittee shall implement the PMPs.

(c) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions. The

PMPs and their submittal do not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(d) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

B.11 Emergency Provisions [326 IAC 2-7-16]

(a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation.

(b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:

(1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;

(2) The permitted facility was at the time being properly operated;

(3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;

(4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, or Northern Regional Office within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance and Enforcement Branch), or
Telephone Number: 317-233-0178 (ask for Office of Air Quality, Compliance and Enforcement Branch)
Facsimile Number: 317-233-6865
Northern Regional Office phone: (574) 245-4870; fax: (574) 245-4877.

(5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-7-5(3)(C)(ii) and must contain the following:

(A) A description of the emergency;

(B) Any steps taken to mitigate the emissions; and

(C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(6) The Permittee immediately took all reasonable steps to correct the emergency.

(c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

(d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.

(e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4(c)(9) be revised in response to an emergency.

(f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.

(g) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.

B.12 Permit Shield [326 IAC 2-7-15][326 IAC 2-7-20][326 IAC 2-7-12]

(a) Pursuant to 326 IAC 2-7-15, the Permittee has been granted a permit shield. The permit shield provides that compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that either the applicable requirements are included and specifically identified in this permit or the permit contains an explicit determination or concise summary of a determination that other specifically identified requirements are not applicable. The Indiana statutes from IC 13 and rules from 326 IAC, referenced in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a Part 70 permit under 326 IAC 2-7 or for applicable requirements for which a permit shield has been granted.

This permit shield does not extend to applicable requirements which are promulgated after the date of issuance of this permit unless this permit has been modified to reflect such new requirements.

(b) If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement that applied to the source on the date of permit issuance, IDEM, OAQ, shall immediately take steps to reopen and revise this permit and issue a compliance order to the Permittee to ensure expeditious compliance with the applicable

requirement until the permit is reissued. The permit shield shall continue in effect so long as the Permittee is in compliance with the compliance order.

(c) No permit shield shall apply to any permit term or condition that is determined after issuance of this permit to have been based on erroneous information supplied in the permit application. Erroneous information means information that the Permittee knew to be false, or in the exercise of reasonable care should have been known to be false, at the time the information was submitted.

(d) Nothing in 326 IAC 2-7-15 or in this permit shall alter or affect the following:

(1) The provisions of Section 303 of the Clean Air Act (emergency orders), including the authority of the U.S. EPA under Section 303 of the Clean Air Act;

(2) The liability of the Permittee for any violation of applicable requirements prior to or at the time of this permit's issuance;

(3) The applicable requirements of the acid rain program, consistent with Section 408(a) of the Clean Air Act; and

(4) The ability of U.S. EPA to obtain information from the Permittee under Section 114 of the Clean Air Act.

(e) This permit shield is not applicable to any change made under 326 IAC 2-7-20(b)(2) (Sections 502(b)(10) of the Clean Air Act changes) and 326 IAC 2-7-20(c)(2) (trading based on State Implementation Plan (SIP) provisions).

(f) This permit shield is not applicable to modifications eligible for group processing until after IDEM, OAQ, has issued the modifications. [326 IAC 2-7-12(c)(7)]

(g) This permit shield is not applicable to minor Part 70 permit modifications until after IDEM, OAQ, has issued the modification. [326 IAC 2-7-12(b)(8)]

B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5][326 IAC 2-7-10.5]

(a) All terms and conditions of permits established prior to T085-18852-00077 and issued pursuant to permitting programs approved into the state implementation plan have been either:

(1) incorporated as originally stated,

(2) revised under 326 IAC 2-7-10.5, or

(3) deleted under 326 IAC 2-7-10.5.

(b) Provided that all terms and conditions are accurately reflected in this combined permit, all previous registrations and permits are superseded by this combined new source review and part 70 operating permit.

B.14 Termination of Right to Operate [326 IAC 2-7-10][326 IAC 2-7-4(a)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source’s existing permit, consistent with 326 IAC 2-7-3 and 326 IAC 2-7-4(a).

B.15 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-7-5(6)(C)][326 IAC 2-7-8(a)][326 IAC 2-7-9]

(a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Part 70 Operating Permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-7-5(6)(C)] The notification by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:

(1) That this permit contains a material mistake.

(2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.

(3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-7-9(a)(3)]

(c) Proceedings by IDEM, OAQ to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-7-9(b)]

(d) The reopening and revision of this permit, under 326 IAC 2-7-9(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ may provide a shorter time period in the case of an emergency. [326 IAC 2-7-9(c)]

B.16 Permit Renewal [326 IAC 2-7-3][326 IAC 2-7-4][326 IAC 2-7-8(e)]

(a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-7-4. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

(b) A timely renewal application is one that is:

(1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and

(2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the

document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

(c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-7 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified, pursuant to 326 IAC 2-7-4(a)(2)(D), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.17 Permit Amendment or Modification [326 IAC 2-7-11][326 IAC 2-7-12]

(a) Permit amendments and modifications are governed by the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this permit.

(b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.18 Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-7-5(8)][326 IAC 2-7-12(b)(2)]

(a) No Part 70 permit revision or notice shall be required under any approved economic incentives, marketable Part 70 permits, emissions trading, and other similar programs or processes for changes that are provided for in a Part 70 permit.

(b) Notwithstanding 326 IAC 2-7-12(b)(1) and 326 IAC 2-7-12(c)(1), minor Part 70 permit modification procedures may be used for Part 70 modifications involving the use of economic incentives, marketable Part 70 permits, emissions trading, and other similar approaches to the extent that such minor Part 70 permit modification procedures are explicitly provided for in the applicable State Implementation Plan (SIP) or in applicable requirements promulgated or approved by the U.S. EPA.

B.19 Operational Flexibility [326 IAC 2-7-20][326 IAC 2-7-10.5]

(a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-7-20(b),(c), or (e) without a prior permit revision, if each of the following conditions is met:

(1) The changes are not modifications under any provision of Title I of the Clean Air Act;

(2) Any preconstruction approval required by 326 IAC 2-7-10.5 has been obtained;

(3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);

(4) The Permittee notifies the:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and

(5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-7-20(b),(c), or (e). The Permittee shall make such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ in the notices specified in 326 IAC 2-7-20(b)(1), (c)(1), and (e)(2).

(b) The Permittee may make Section 502(b)(10) of the Clean Air Act changes (this term is defined at 326 IAC 2-7-1(36)) without a permit revision, subject to the constraint of 326 IAC 2-7-20(a). For each such Section 502(b)(10) of the Clean Air Act change, the required written notification shall include the following:

(1) A brief description of the change within the source;

(2) The date on which the change will occur;

(3) Any change in emissions; and

(4) Any permit term or condition that is no longer applicable as a result of the change.

The notification which shall be submitted is not considered an application form, report or compliance certification. Therefore, the notification by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(34).

(c) Emission Trades [326 IAC 2-7-20(c)]
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-7-20(c).

(d) Alternative Operating Scenarios [326 IAC 2-7-20(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-7-5(9). No prior notification of IDEM, OAQ, or U.S. EPA is required.

(e) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

B.20 Source Modification Requirement [326 IAC 2-7-10.5]

A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2.

B.21 Inspection and Entry [326 IAC 2-7-6][IC 13-14-2-2][IC 13-30-3-1][IC 13-17-3-2]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

(a) Enter upon the Permittee's premises where a Part 70 source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

(b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy any records that must be kept under the conditions of this permit;

(c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

(d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and

(e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.22 Transfer of Ownership or Operational Control [326 IAC 2-7-11]

(a) The Permittee must comply with the requirements of 326 IAC 2-7-11 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.

(b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.23 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)][326 IAC 2-1.1-7]

(a) The Permittee shall pay annual fees to IDEM, OAQ within thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.

(b) Except as provided in 326 IAC 2-7-19(e), failure to pay may result in administrative enforcement action or revocation of this permit.

(c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.24 Credible Evidence [326 IAC 2-7-5(3)][326 IAC 2-7-6][62 FR 8314] [326 IAC 1-1-6]

For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of any condition of this permit, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether the Permittee would have been in compliance with the condition of this permit if the appropriate performance or compliance test or procedure had been performed.

**SECTION C SOURCE OPERATION CONDITIONS**

Entire Source

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour.

C.2 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-1 (Applicability) and 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.

C.3 Open Burning [326 IAC 4-1] [IC 13-17-9]

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. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1.

C.4 Incineration [326 IAC 4-2] [326 IAC 9-1-2]

The Permittee shall not operate an incinerator except as provided in 326 IAC 4-2 or in this permit. The Permittee shall not operate a refuse incinerator or refuse burning equipment except as provided in 326 IAC 9-1-2 or in this permit.

C.5 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

C.6 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

(a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.

(b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:

(1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or

(2) If there is a change in the following:

(A) Asbestos removal or demolition start date;

(B) Removal or demolition contractor; or

(C) Waste disposal site.

(c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).

(d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(e) Procedures for Asbestos Emission Control
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.

(f) Demolition and Renovation
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).

(g) Indiana Licensed Asbestos Inspector
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Licensed Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement to use an Indiana Licensed Asbestos inspector is not federally enforceable.

**Testing Requirements [326 IAC 2-7-6(1)]**

C.7 Performance Testing [326 IAC 3-6]

(a) For performance testing required by this permit, a test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

**Compliance Requirements [326 IAC 2-1.1-11]**

C.8 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U.S. EPA.

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

C.9 Compliance Monitoring [326 IAC 2-7-5(3)][326 IAC 2-7-6(1)]

Unless otherwise specified in this permit, for all monitoring requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or of initial start-up, whichever is later, to begin such monitoring. If due to circumstances beyond the Permittee's control, any monitoring equipment required by this permit cannot be installed and operated no later than ninety (90) days after permit issuance or the date of initial startup, whichever is later, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units or emission units added through a source modification shall be implemented when operation begins.

C.10 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

(a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale.

(b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an alternative instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

**Corrective Actions and Response Steps [326 IAC 2-7-5][326 IAC 2-7-6]**

C.11 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

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

(a) The Permittee shall maintain the most recently submitted written emergency reduction plans (ERPs) consistent with safe operating procedures.

(b) Upon direct notification by IDEM, OAQ 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 episode level. [326 IAC 1-5-3]

C.12 Risk Management Plan [326 IAC 2-7-5(12)] [40 CFR 68]

If a regulated substance, as defined in 40 CFR 68, is present at a source in more than a threshold quantity, the Permittee must comply with the applicable requirements of 40 CFR 68.

C.13 Response to Excursions or Exceedances [326 IAC 2-7-5] [326 IAC 2-7-6]

Upon detecting an excursion where a response step is required by the D Section or an exceedance of a limitation in this permit:

(a) The Permittee shall take reasonable response steps to restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing excess emissions.

(b) The response shall include minimizing the period of any startup, shutdown or malfunction. The response may include, but is not limited to, the following:

(1) initial inspection and evaluation;

(2) recording that operations returned or are returning to normal without operator action (such as through response by a computerized distribution control system); or

(3) any necessary follow-up actions to return operation to normal or usual manner of operation.

(c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:

(1) monitoring results;

(2) review of operation and maintenance procedures and records; and/or

(3) inspection of the control device, associated capture system, and the process.

(d) Failure to take reasonable response steps shall be considered a deviation from the permit.

(e) The Permittee shall record the reasonable response steps taken.

C.14 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5][326 IAC 2-7-6]

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall submit a description of its response actions to IDEM, OAQ, no later than seventy-five (75) days after the date of the test.

(b) A retest to demonstrate compliance shall be performed no later than one hundred eighty (180) days after the date of the test. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred eighty (180) days is not practicable, IDEM, OAQ may extend the retesting deadline

(c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The response action documents submitted pursuant to this condition do require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

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

C.15 Emission Statement [326 IAC 2-7-5(3)(C)(iii)][326 IAC 2-7-5(7)][326 IAC 2-7-19(c)][326 IAC 2-6]

In accordance with the compliance schedule specified in 326 IAC 2-6-3(b)(1), starting in 2004 and every three (3) years thereafter, the Permittee shall submit by July 1 an emission statement covering the previous calendar year. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4(c) and shall meet the following requirements:

(1) Indicate estimated actual emissions of all pollutants listed in 326 IAC 2-6-4(a);

(2) Indicate estimated actual emissions of regulated pollutants as defined by 326 IAC 2-7-1(32) (“Regulated pollutant, which is used only for purposes of Section 19 of this rule”) from the source, for purpose of fee assessment.

The statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Quality
100 North Senate Avenue
MC 61-50 IGCN 1003
Indianapolis, Indiana 46204-2251

The emission statement does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

C.16 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6]

(a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

(b) Unless otherwise specified in this permit, for all record keeping requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or the date of initial start-up, whichever is later, to begin such record keeping.

C.17 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11]

(a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported except that a deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. This report shall be submitted not later than thirty (30) days after the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

(b) The address for report submittal is:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

(c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

(d) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit “calendar year” means the twelve (12) month period from January 1 to December 31 inclusive.

**Stratospheric Ozone Protection**

C.18 Compliance with 40 CFR 82 and 326 IAC 22-1

Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with applicable standards for recycling and emissions reduction.

## SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

**Emissions Unit Description:**

(a) One (1) fiberglass production line, identified as Line 1, installed in February 1998, with a maximum production rate of 15 fiberglass units per hour, including:

(1) One (1) chop resin application booth, consisting of one (1) non-atomized fluid impingement chop gun, identified as SG1, exhausting to one (1) stack identified as SG1X. The booth is also equipped with dry filters for particulate control.

(2) One (1) gel coat application booth, identified as SG3, consisting of two (2) stationary non-atomized fluid impingement applicators, installed in February 1998, and two (2) portable non-atomized fluid impingement applicators, installed in 2003, using a maximum of two applicators at a time, exhausting to one (1) stack identified as SG3X. The booth is also equipped with dry filters for particulate control.

(b) One (1) fiberglass production line, identified as Line 2, installed in July 1999, with a maximum production rate of 30 fiberglass units per hour, including:

(1) One (1) chop resin application booth, consisting of two (2) non-atomized fluid impingement chop guns, identified as SG7 and SG8, producing up to 30 fiberglass units per hour per gun, and exhausting to three (3) stacks identified as SG7X, SG8X and SG9X. The booth is also equipped with dry filters for particulate control.

(2) One (1) gel coat application booth, identified as SG5, consisting of two (2) stationary non-atomized fluid impingement applicators and two (2) portable non-atomized fluid impingement applicators, using two applicators at a time, exhausting to one (1) stack identified as SG5X. The booth is also equipped with dry filters for particulate control.

(c) Cleaners and solvents characterized as follows:

(1) having a vapor pressure equal to or less than 2 kPa; 15mm Hg; or 0.3 psi measured at 38°C (100°F) or;

(2) having a vapor pressure equal to or less than 0.7 kPa; 5mm Hg; or 0.1 psi measured at 20°C (68°F);

the use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months. [40 CFR Part 63, Subpart WWWW] [326 IAC 20-56] [326 IAC 20-81];

(d) Mold release agents using low volatile products (vapor pressure less than or equal to 2 kilopascals (kPa) measured at 38 degrees C). [40 CFR Part 63, Subpart WWWW] [326 IAC 20-56]; and

(e) Other activities and categories with emissions below insignificant thresholds:

(1) One (1) Mold Repair area, constructed in 1998, using a brush and/or an aerosol sprayer dipped in Dixie Cup of resin or gel coat for minor gel coat mixing and touch-up of resin and gel coat [40 CFR Part 63, Subpart WWWW]

[326 IAC 20-56];

(2) One (1) minor touch-up repair using aerosol cans [40 CFR Part 63, Subpart WWWW] [326 IAC 20-56];

(3) Two (2) resin mix tank for mixing resin with inert ingredients [40 CFR Part 63, Subpart WWWW] [326 IAC 20-56];

(4) One (1) minor usage of sealers, buffing compounds, waxes, primers, and wood glues [40 CFR Part 63, Subpart WWWW] [326 IAC 20-56];

Under 40 CFR 63, Subpart WWWW, this reinforced plastic composites production plant is considered an existing affected source.

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

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

D.1.1 Volatile Organic Compounds (VOC) [326 IAC 8-1-6] [326 IAC 20-56]

Pursuant to SSM No. 085-28953-00077 and 326 IAC 8-1-6 (New Facilities; General Reduction Requirements), the best available control technology (BACT) for VOC emissions from the Line 1 fiberglass production line (SG1 and SG3) and the Line 2 fiberglass production line (SG5, SG7, and SG8) shall be as follows:

(a) Compliance with all applicable requirements of 40 CFR 63, Subpart WWWW, as specified in Section E.1 of this permit.

(b) Compliance with the following requirements of 326 IAC 20-56-2, Operator Training:

(1) Each owner or operator shall train all new and existing personnel, including contract personnel, who are involved in resin and gel coat spraying and applications that could result in excess emissions if performed improperly according to the following schedule:

(A) All personnel hired shall be trained within thirty (30) days of hiring.

(B) To ensure training goals listed in subparagraph (b)(2) are maintained, all personnel shall be given refresher training annually.

(C) Personnel who have been trained by another owner or operator subject to this rule are exempt from subparagraph (b)(1)(A) if written documentation that the employee's training is current is provided to the new employer.

(2) The lesson plans shall cover, for the initial and refresher training, at a minimum, all of the following topics:

(A) Appropriate application techniques.

(B) Appropriate equipment cleaning procedures.

(C) Appropriate equipment setup and adjustment to minimize material usage and overspray.

(3) The owner or operator shall maintain the following training records on site and make them available for inspection and review:

(A) A copy of the current training program.

(B) A list of the following:

(i) All current personnel, by name, that are required to be trained.

(ii) The date the person was trained or the date of the most recent refresher training, whichever is later.

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

D.1.2 PSD Minor Limit [326 IAC 2-2]

The Permittee shall comply with the following:

(a) Particulate matter emissions from chop resin application guns SG1, SG7, and SG8, and gel coat application booths SG3 and SG5 shall not exceed 51.63 pounds per hour.

(b) PM10 emissions from chop resin application guns SG1, SG7, and SG8, and gel coat application booths SG3 and SG5 shall not exceed 51.61 pounds per hour.

(c) The usage of resins, gel coats, catalysts, mold release agents, and solvents at the Line 1 reinforced plastic composites manufacturing operations, including the resin application guns (SG1) and the gel coat application booth (SG3), shall be limited such that the total VOC emissions from these units is less than 100 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(d) The usage of resins, gel coats, catalysts, mold release agents, and solvents at the Line 2 reinforced plastic composites manufacturing operations, including the resin application guns (SG7 and SG8) and the gel coat application booth (SG5), shall be limited such that the total VOC emissions from these units is less than 145 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with the above limits, combined with the potential to emit PM, PM10, and VOC from other units at the source, limits the total source wide PM, PM10, and VOC emissions each to less than 250 tons per twelve (12) consecutive month period and renders 326 IAC 2-2 not applicable.

D.1.3 Particulate [326 IAC 6-3-2(d)]

Pursuant to 326 IAC 6-3-2(d), particulate from chop resin application guns SG1, SG7, and SG8, and gel coat application booths SG3 and SG5 shall be controlled by a dry particulate filter, and the Permittee shall operate the control device in accordance with manufacturer's specifications**.**

D.1.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan is required for each of these facilities and their control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

**Compliance Determination Requirements**

D.1.5 Volatile Organic Compounds (VOC)

Compliance with the VOC emission limitation contained in Conditions D.1.2(c) and D.1.2(d) shall be determined as follows:

(a) For the catalysts, mold release agents, and solvents, the VOC emissions shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) by preparing or obtaining from the manufacturer the copies of the "as supplied" and "as applied" VOC data sheets. IDEM, OAQ reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

(b) For the resins and gel coats, the VOC emissions shall be calculated by multiplying the usage of each gel coat and resin by the emission factor provided by the "Unified Emission Factors for Open Molding of Composites", Composites Fabricators Association, July 23, 2001, or its updates in conjunction with the following equation:

$$E_x = \sum_{i_x=1}^{n_x} \frac{A_i B_i}{2{,}000} \bullet \frac{UEF_i}{2{,}000}$$

Where:

| | |
|---|---|
| E = | VOC emissions (ton/month) |
| x = | Production line number |
| n = | Number of resin or gel coat materials used during the month |
| i = | Each type of resin or gel coat |
| $A_i$ = | Density of resin or gel coat material (lb/gal resin or gel coat) |
| $B_i$ = | Gallons of resin or gel coat used per month (gal/month) |
| $UEF_i$ = | Unified Emission Factor for Open Molding of Composites (lb monomer/ton resin or gel coat) based on monomer content (as determined from the manufacturer's material safety data sheet), application technique, and other emission reduction techniques for each resin and gel coat |
| 2,000 = | Conversion factor (2,000 lb/ton) |

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, or its updates, except use of controlled spray emission factors must be approved by the commissioner. For the purposes of these emission calculations, monomer in resins and gel coats that is not styrene shall be considered as styrene on an equivalent weight basis.

D.1.6 Particulate Control

In order to comply with Conditions D.1.2(a), D.1.2(b), and D.1.3, the dry filters for particulate control shall be in operation and control emissions from chop resin application guns SG1, SG7, and SG8, and gel coat application booths SG3 and SG5, at all times that chop resin application guns SG1, SG7, and SG8, and gel coat application booths SG3 and SG5 are in operation.

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

D.1.7 Monitoring [40 CFR 64]

(a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters for chop resin application guns SG1, SG7, and SG8, and gel coat application booths SG5 and SG3. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the booth stacks (SG1X, SG3X, SG5X, SG7X, SG8X, and SG9X) while one or more of the booths are in operation. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

(b) Monthly inspections shall be performed of the coating emissions from the stacks and the presence of overspray on the rooftops and the nearby ground. When there is a noticeable change in overspray emissions, or when evidence of overspray emissions is observed, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

Compliance with these requirements satisfies the requirements of 40 CFR 64 (CAM) for chop resin application guns SG1, SG7, and SG8, and gel coat application booth SG5.

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

D.1.8 Record Keeping Requirements

(a) To document the compliance status with Condition D.1.1(b), 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.

(b) To document the compliance status with Conditions D.1.2(c) and D.1.2(d), the Permittee shall maintain records in accordance with (1) and (2) below. Records maintained for (1) and (2) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC emission limits established in Conditions D.1.2(c) and D.1.2(d). Records necessary to demonstrate compliance shall be available within 30 days of the end of each compliance period.

(1) For coating material and solvent use other than monomer-based gel coats and resins:

(A) The VOC content of each coating material and solvent used.

(B) The amount of coating and solvent used on a monthly basis.

(i) Records shall include purchase orders, invoices, and material safety data sheets as necessary to verify the type and amount used.

(ii) Solvent usage records shall differentiate between those added to coatings and those added as cleanup solvents.

(C) The total VOC usage for each month.

(2) For monomer-based gel coats and resins:

(A) The monomer content of each resin and gel coat used.

(B) The amount of gel coat and resin used on a monthly basis. Records shall include purchase orders, invoices, and material safety data sheets as necessary to verify the type and amount used.

(C) The method of application and other emission reduction techniques for each resin and gel coat used.

(D) Monthly calculations, as described in Condition D.1.5(b), demonstrating the weight of VOC emitted from resin and gel coat use each month.

(c) To document the compliance status with Conditions D.1.3 and D.1.7 the Permittee shall maintain a log of weekly overspray observations, and daily and monthly inspections. The Permittee shall include in its record when a weekly overspray observation, daily inspection, or monthly inspection notation is not taken and the reason for the lack of weekly overspray observation, daily inspection, or monthly inspection notation (e.g. the process did not operate that day).

(d) Section C - General Record Keeping Requirements, of this permit contains the Permittee's obligation with regard to the records required by this condition.

D.1.9 Reporting Requirements

A quarterly summary of the information to document the compliance status with Conditions D.1.2(c) and D.1.2(d) shall be submitted using the reporting forms located at the end of this permit, or its equivalent, not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(34).

## SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

**Emissions Unit Description:**

(a) Two (2) trim booths, identified as T1 and T2, each constructed in 1998, each using one (1) cartridge filter system for particulate control, not exhausting to a stack. Filtered air from the control device is re-circulated into the grinding booth, where the units are located. Each trim booth consists of:

(1) Two (2) trimmer saws, each with a each with a throughput capacity of 969 pounds per hour; and

(2) Two (2) hand grinders, each with a throughput capacity of 969 pounds per hour [326 IAC 6-3-2].

(The information describing the process contained in this emissions unit 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 [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes) the allowable particulate emission rate from each of the two (2) trim booths, T1 and T2, shall not exceed 6.39 pounds per hour when operating at a process weight rate of 1.94 tons per hour. 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:

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

## SECTION E.1 SOURCE OPERATION CONDITIONS - NESHAP, Subpart WWWW

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

(a) One (1) fiberglass production line, identified as Line 1, installed in February 1998, with a maximum production rate of 15 fiberglass units per hour, including:

(1) One (1) chop resin application booth, consisting of one (1) non-atomized fluid impingement chop gun, identified as SG1, exhausting to one (1) stack identified as SG1X. The booth is also equipped with dry filters for particulate control.

(2) One (1) gel coat application booth, identified as SG3, consisting of two (2) stationary non-atomized fluid impingement applicators, installed in February 1998, and two (2) portable non-atomized fluid impingement applicators, installed in 2003, using a maximum of two applicators at a time, exhausting to one (1) stack identified as SG3X. The booth is also equipped with dry filters for particulate control.

(b) One (1) fiberglass production line, identified as Line 2, installed in July 1999, with a maximum production rate of 30 fiberglass units per hour, including:

(1) One (1) chop resin application booth, consisting of two (2) non-atomized fluid impingement chop guns, identified as SG7 and SG8, producing up to 30 fiberglass units per hour per gun, and exhausting to three (3) stacks identified as SG7X, SG8X and SG9X. The booth is also equipped with dry filters for particulate control.

(2) One (1) gel coat application booth, identified as SG5, consisting of two (2) stationary non-atomized fluid impingement applicators and two (2) portable non-atomized fluid impingement applicators, using two applicators at a time, exhausting to one (1) stack identified as SG5X. The booth is also equipped with dry filters for particulate control.

(c) Cleaners and solvents characterized as follows:

(1) having a vapor pressure equal to or less than 2 kPa; 15mm Hg; or 0.3 psi measured at 38°C (100°F) or;

(2) having a vapor pressure equal to or less than 0.7 kPa; 5mm Hg; or 0.1 psi measured at 20°C (68°F);

the use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months. [40 CFR Part 63, Subpart WWWW] [326 IAC 20-56] [326 IAC 20-81];

(d) Mold release agents using low volatile products (vapor pressure less than or equal to 2 kilopascals (kPa) measured at 38 degrees C). [40 CFR Part 63, Subpart WWWW] [326 IAC 20-56]; and

(e) Other activities and categories with emissions below insignificant thresholds:

(1) One (1) Mold Repair area, constructed in 1998, using a brush and/or an aerosol sprayer dipped in Dixie Cup of resin or gel coat for minor gel coat mixing and touch-up of resin and gel coat [40 CFR Part 63, Subpart WWWW] [326 IAC 20-56];

(2) One (1) minor touch-up repair using aerosol cans [40 CFR Part 63, Subpart WWWW] [326 IAC 20-56];

(3) Two (2) resin mix tank for mixing resin with inert ingredients [40 CFR Part 63, Subpart WWWW] [326 IAC 20-56];

(4) One (1) minor usage of sealers, buffing compounds, waxes, primers, and wood glues [40 CFR Part 63, Subpart WWWW] [326 IAC 20-56];

Under 40 CFR 63, Subpart WWWW, this reinforced plastic composites production plant is considered an existing affected source.

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

E.1.1 General Provisions Relating to NESHAP WWWW [326 IAC 20-1] [40 CFR Part 63, Subpart A]

Pursuant to 40 CFR 63.5925, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1-1, as specified in Table 15 of 40 CFR Part 63, Subpart WWWW in accordance with schedule in 40 CFR 63 Subpart WWWW.

E.1.2 Reinforced Plastic Composites Production NESHAP [40 CFR Part 63, Subpart WWWW]

The Permittee which engages in reinforced plastic composites production shall comply with the following provisions of 40 CFR Part 63, Subpart WWWW (included as Attachment A of this permit), with a compliance date of April 21, 2006:

(1) 40 CFR 63.5780
(2) 40 CFR 63.5785(a)
(3) 40 CFR 63.5790
(4) 40 CFR 63.5795
(5) 40 CFR 63.5796
(6) 40 CFR 63.5797
(7) 40 CFR 63.5798
(8) 40 CFR 63.5799(b) and (c)
(9) 40 CFR 63.5800
(10) 40 CFR 63.5805(b) and (g)
(11) 40 CFR 63.5810
(12) 40 CFR 63.5835(a) and (c)
(13) 40 CFR 63.5840
(14) 40 CFR 63.5860(a)
(15) 40 CFR 63.5895(b), (c) and (d)
(16) 40 CFR 63.5900(a)(2)(3)(4), (b) and (c)
(17) 40 CFR 63.5905
(18) 40 CFR 63.5910(a), (b), (c), (d), (g), (h) and (i)
(19) 40 CFR 63.5915(a), (c) and (d)
(20) 40 CFR 63.5920
(21) 40 CFR 63.5925
(22) 40 CFR 63.5930
(23) 40 CFR 63.5935
(24) Table 1 to Subpart WWWW of Part 63
(25) Table 2 to Subpart WWWW of Part 63
(26) Table 3 to Subpart WWWW of Part 63
(27) Table 4 to Subpart WWWW of Part 63
(28) Table 7 to Subpart WWWW of Part 63
(29) Table 8 to Subpart WWWW of Part 63

(30) Table 9 to Subpart WWWW of Part 63
(31) Table 13 to Subpart WWWW of Part 63
(32) Table 14 to Subpart WWWW of Part 63
(33) Table 15 to Subpart WWWW of Part 63

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
# OFFICE OF AIR QUALITY
# COMPLIANCE AND ENFORCEMENT BRANCH
# PART 70 OPERATING PERMIT
# CERTIFICATION

Source Name: Frontline Manufacturing, Inc.
Source Address: 2466 North, 200 West, Warsaw, Indiana 46580
Part 70 Permit No.: T085-18852-00077

**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:

☐ Annual Compliance Certification Letter

☐ Test Result (specify)

☐ Report (specify)

☐ Notification (specify)

☐ Affidavit (specify)

☐ 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: |
| Phone: |
| Date: |

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
# OFFICE OF AIR QUALITY

**COMPLIANCE AND ENFORCEMENT BRANCH**
**100 North Senate Avenue**
**Indianapolis, Indiana 46204-2251**
**Phone: 317-233-0178**
**Fax: 317-233-6865**

## PART 70 OPERATING PERMIT
## EMERGENCY OCCURRENCE REPORT

Source Name: Frontline Manufacturing, Inc.
Source Address: 2466 North, 200 West, Warsaw, Indiana 46580
Part 70 Permit No.: T085-18852-00077

**This form consists of 2 pages** **Page 1 of 2**

☐ 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 317-233-0178, ask for Compliance Section); and
- The Permittee must submit notice in writing or by facsimile within two (**2**) working days (Facsimile Number: 317-233-6865), 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 |
| Type of Pollutants Emitted: TSP, PM-10, $SO_2$, VOC, $NO_X$, 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: _____

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
# OFFICE OF AIR QUALITY
# COMPLIANCE AND ENFORCEMENT BRANCH

## Part 70 Quarterly Report

Source Name: Frontline Manufacturing, Inc.
Source Address: 2466 North, 200 West, Warsaw, Indiana 46580
Part 70 Permit No.: T085-18852-00077
Facility: Line 1 Fiberglass Production, including Chop Spray Gun (SG1) and Gel Coat Application Booth (SG3)
Parameter: VOC Emissions
Limit: The usage of resins, gel coats, catalysts, mold release agents, and solvents at the Line 1 reinforced plastic composites manufacturing operations, shall be limited such that the total VOC emissions from these units is less than 100 tons per twelve (12) consecutive month period, with compliance determined at the end of each month

QUARTER : YEAR:

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

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

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

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
# OFFICE OF AIR QUALITY
# COMPLIANCE AND ENFORCEMENT BRANCH

## Part 70 Quarterly Report

Source Name: Frontline Manufacturing, Inc.
Source Address: 2466 North, 200 West, Warsaw, Indiana 46580
Part 70 Permit No.: T085-18852-00077
Facility: Line 2 Fiberglass Production, including Chop Spray Guns (SG7 and SG8) and Gel Coat Application Booth (SG5)
Parameter: VOC Emissions
Limit: The usage of resins, gel coats, catalysts, mold release agents, and solvents at the Line 2 reinforced plastic composites manufacturing operations, shall be limited such that the total VOC emissions from these units is less than 145 tons per twelve (12) consecutive month period, with compliance determined at the end of each month

QUARTER : YEAR:

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

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

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

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
# OFFICE OF AIR QUALITY
# COMPLIANCE AND ENFORCEMENT BRANCH
# PART 70 OPERATING PERMIT
# QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

Source Name: Frontline Manufacturing, Inc.
Source Address: 2466 North, 200 West, Warsaw, Indiana 46580
Part 70 Permit No.: T085-18852-00077

**Months: _____ to _____ Year: _____**

Page 1 of 2

| | |
|---|---|
| This report shall be submitted quarterly based on a calendar year. Any deviation from the requirements of this permit, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does 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". | |
| ☐ NO DEVIATIONS OCCURRED THIS REPORTING PERIOD. | |
| ☐ THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD | |
| **Permit Requirement** (specify permit condition #) | |
| **Date of Deviation:** | **Duration of Deviation:** |
| **Number of Deviations:** | |
| **Probable Cause of Deviation:** | |
| **Response Steps Taken:** | |
| **Permit Requirement** (specify permit condition #) | |
| **Date of Deviation:** | **Duration of Deviation:** |
| **Number of Deviations:** | |
| **Probable Cause of Deviation:** | |
| **Response Steps Taken:** | |

| | |
|---|---|
| **Permit Requirement** (specify permit condition #) | |
| **Date of Deviation:** | **Duration of Deviation:** |
| **Number of Deviations:** | |
| **Probable Cause of Deviation:** | |
| **Response Steps Taken:** | |
| **Permit Requirement** (specify permit condition #) | |
| **Date of Deviation:** | **Duration of Deviation:** |
| **Number of Deviations:** | |
| **Probable Cause of Deviation:** | |
| **Response Steps Taken:** | |
| **Permit Requirement** (specify permit condition #) | |
| **Date of Deviation:** | **Duration of Deviation:** |
| **Number of Deviations:** | |
| **Probable Cause of Deviation:** | |
| **Response Steps Taken:** | |

Form Completed by:_____

Title / Position: _____

Date:_____

Phone: _____

**Attachment A**
**to Part 70 Operating Permit Renewal No. T085-18852-00077**

Frontline Manufacturing, Inc.
2466 North, 200 West, Warsaw, IN 46580

## Subpart WWWW—National Emissions Standards for Hazardous Air Pollutants: Reinforced Plastic Composites Production

**Source:** 68 FR 19402, Apr. 21, 2003, unless otherwise noted.

### What This Subpart Covers

### § 63.5780 What is the purpose of this subpart?

This subpart establishes national emissions standards for hazardous air pollutants (NESHAP) for reinforced plastic composites production. This subpart also establishes requirements to demonstrate initial and continuous compliance with the hazardous air pollutants (HAP) emissions standards.

### § 63.5785 Am I subject to this subpart?

(a) You are subject to this subpart if you own or operate a reinforced plastic composites production facility that is located at a major source of HAP emissions. Reinforced plastic composites production is limited to operations in which reinforced and/or nonreinforced plastic composites or plastic molding compounds are manufactured using thermoset resins and/or gel coats that contain styrene to produce plastic composites. The resins and gel coats may also contain materials designed to enhance the chemical, physical, and/or thermal properties of the product. Reinforced plastic composites production also includes cleaning, mixing, HAP-containing materials storage, and repair operations associated with the production of plastic composites.

(b) You are not subject to this subpart if your facility only repairs reinforced plastic composites. Repair includes the non-routine manufacture of individual components or parts intended to repair a larger item as defined in §63.5935

(c) You are not subject to this subpart if your facility is a research and development facility as defined in section 112(c)(7) of the Clean Air Act (CAA).

(d) You are not subject to this subpart if your reinforced plastic composites operations use less than 1.2 tons per year (tpy) of thermoset resins and gel coats that contain styrene combined.

### § 63.5787 What if I also manufacture fiberglass boats or boat parts?

(a) If your source meets the applicability criteria in §63.5785, and is not subject to the Boat Manufacturing NESHAP (40 CFR part 63, subpart VVVV), you are subject to this subpart regardless of the final use of the parts you manufacture.

(b) If your source is subject to 40 CFR part 63, subpart VVVV, and all the reinforced plastic composites you manufacture are used in manufacturing your boats, you are not subject to this subpart.

(c) If you are subject to 40 CFR part 63, subpart VVVV, and meet the applicability criteria in §63.5785, and produce reinforced plastic composites that are not used in fiberglass boat manufacture at your facility, all operations associated with the manufacture of the reinforced plastic composites parts that are

not used in fiberglass boat manufacture at your facility are subject to this subpart, except as noted in paragraph (d) of this section.

(d) Facilities potentially subject to both this subpart and 40 CFR part 63, subpart VVVV may elect to have the operations in paragraph (c) of this section covered by 40 CFR part 63, subpart VVVV, in lieu of this subpart, if they can demonstrate that this will not result in any organic HAP emissions increase compared to complying with this subpart.

**§ 63.5790 What parts of my plant does this subpart cover?**

(a) This subpart applies to each new or existing affected source at reinforced plastic composites production facilities.

(b) The affected source consists of all parts of your facility engaged in the following operations: Open molding, closed molding, centrifugal casting, continuous lamination, continuous casting, polymer casting, pultrusion, sheet molding compound (SMC) manufacturing, bulk molding compound (BMC) manufacturing, mixing, cleaning of equipment used in reinforced plastic composites manufacture, HAP-containing materials storage, and repair operations on parts you also manufacture.

(c) The following operations are specifically excluded from any requirements in this subpart: application of mold sealing and release agents; mold stripping and cleaning; repair of parts that you did not manufacture, including non-routine manufacturing of parts; personal activities that are not part of the manufacturing operations (such as hobby shops on military bases); prepreg materials as defined in §63.5935; non-gel coat surface coatings; application of putties, polyputties, and adhesives; repair or production materials that do not contain resin or gel coat; research and development operations as defined in section 112(c)(7) of the CAA; polymer casting; and closed molding operations (except for compression/injection molding). Note that the exclusion of certain operations from any requirements applies only to operations specifically listed in this paragraph. The requirements for any co-located operations still apply.

(d) Production resins that must meet military specifications are allowed to meet the organic HAP limit contained in that specification. In order for this exemption to be used, you must supply to the permitting authority the specifications certified as accurate by the military procurement officer, and those specifications must state a requirement for a specific resin, or a specific resin HAP content. Production resins for which this exemption is used must be applied with nonatomizing resin application equipment unless you can demonstrate this is infeasible. You must keep a record of the resins for which you are using this exemption.

[68 FR 19402, Apr. 21, 2003, as amended at 70 FR 50124, Aug. 25, 2005]

**§ 63.5795 How do I know if my reinforced plastic composites production facility is a new affected source or an existing affected source?**

(a) A reinforced plastic composites production facility is a new affected source if it meets all the criteria in paragraphs (a)(1) and (2) of this section.

(1) You commence construction of the source after August 2, 2001.

(2) You commence construction, and no other reinforced plastic composites production source exists at that site.

(b) For the purposes of this subpart, an existing affected source is any affected source that is not a new affected source.

[70 FR 50124, Aug. 25, 2005]

**Calculating Organic HAP Emissions Factors for Open Molding and Centrifugal Casting**

**§ 63.5796 What are the organic HAP emissions factor equations in Table 1 to this subpart, and how are they used in this subpart?**

Emissions factors are used in this subpart to determine compliance with certain organic HAP emissions limits in Tables 3 and 5 to this subpart. You may use the equations in Table 1 to this subpart to calculate your emissions factors. Equations are available for each open molding operation and centrifugal casting operation and have units of pounds of organic HAP emitted per ton (lb/ton) of resin or gel coat applied. These equations are intended to provide a method for you to demonstrate compliance without the need to conduct for a HAP emissions test. In lieu of these equations, you can elect to use site-specific organic HAP emissions factors to demonstrate compliance provided your site-specific organic HAP emissions factors are incorporated in the facility's air emissions permit and are based on actual facility HAP emissions test data. You may also use the organic HAP emissions factors calculated using the equations in Table 1 to this subpart, combined with resin and gel coat use data, to calculate your organic HAP emissions.

**§ 63.5797 How do I determine the organic HAP content of my resins and gel coats?**

In order to determine the organic HAP content of resins and gel coats, you may rely on information provided by the material manufacturer, such as manufacturer's formulation data and material safety data sheets (MSDS), using the procedures specified in paragraphs (a) through (c) of this section, as applicable.

(a) Include in the organic HAP total each organic HAP that is present at 0.1 percent by mass or more for Occupational Safety and Health Administration-defined carcinogens, as specified in 29 CFR 1910.1200(d)(4) and at 1.0 percent by mass or more for other organic HAP compounds.

(b) If the organic HAP content is provided by the material supplier or manufacturer as a range, you must use the upper limit of the range for determining compliance. If a separate measurement of the total organic HAP content, such as an analysis of the material by EPA Method 311 of appendix A to 40 CFR part 63, exceeds the upper limit of the range of the total organic HAP content provided by the material supplier or manufacturer, then you must use the measured organic HAP content to determine compliance.

(c) If the organic HAP content is provided as a single value, you may use that value to determine compliance. If a separate measurement of the total organic HAP content is made and is less than 2 percentage points higher than the value for total organic HAP content provided by the material supplier or manufacturer, then you still may use the provided value to demonstrate compliance. If the measured total organic HAP content exceeds the provided value by 2 percentage points or more, then you must use the measured organic HAP content to determine compliance.

**§ 63.5798 What if I want to use, or I manufacture, an application technology (new or existing) whose organic HAP emissions characteristics are not represented by the equations in Table 1 to this subpart?**

If you wish to use a resin or gel coat application technology (new or existing), whose emission characteristics are not represented by the equations in Table 1 to this subpart, you may use the procedures in paragraphs (a) or (b) of this section to establish an organic HAP emissions factor. This organic HAP emissions factor may then be used to determine compliance with the emission limits in this subpart, and to calculate facility organic HAP emissions.

(a) Perform an organic HAP emissions test to determine a site-specific organic HAP emissions factor using the test procedures in §63.5850.

(b) Submit a petition to the Administrator for administrative review of this subpart. This petition must contain a description of the resin or gel coat application technology and supporting organic HAP emissions test data obtained using EPA test methods or their equivalent. The emission test data should be obtained using a range of resin or gel coat HAP contents to demonstrate the effectiveness of the technology under the different conditions, and to demonstrate that the technology will be effective at different sites. We will review the submitted data, and, if appropriate, update the equations in Table 1 to this subpart.

**§ 63.5799 How do I calculate my facility's organic HAP emissions on a tpy basis for purposes of determining which paragraphs of §63.5805 apply?**

To calculate your facility's organic HAP emissions in tpy for purposes of determining which paragraphs in §63.5805 apply to you, you must use the procedures in either paragraph (a) of this section for new facilities prior to startup, or paragraph (b) of this section for existing facilities and new facilities after startup. You are not required to calculate or report emissions under this section if you are an existing facility that does not have centrifugal casting or continuous lamination/casting operations, or a new facility that does not have any of the following operations: Open molding, centrifugal casting, continuous lamination/casting, pultrusion, SMC and BMC manufacturing, and mixing. Emissions calculation and emission reporting procedures in other sections of this subpart still apply. Calculate organic HAP emissions prior to any add-on control device, and do not include organic HAP emissions from any resin or gel coat used in operations subject to the Boat Manufacturing NESHAP, 40 CFR part 63, subpart VVVV, or from the manufacture of large parts as defined in §63.5805(d)(2). For centrifugal casting operations at existing facilities, do not include any organic HAP emissions where resin or gel coat is applied to an open centrifugal mold using open molding application techniques. Table 1 and the Table 1 footnotes to this subpart present more information on calculating centrifugal casting organic HAP emissions. The timing and reporting of these calculations is discussed in paragraph (c) of this section.

(a) For new facilities prior to startup, calculate a weighted average organic HAP emissions factor for the operations specified in §63.5805(c) and (d) on a lbs/ton of resin and gel coat basis. Base the weighted average on your projected operation for the 12 months subsequent to facility startup. Multiply the weighted average organic HAP emissions factor by projected resin use over the same period. You may calculate your organic HAP emissions factor based on the factors in Table 1 to this subpart, or you may use any HAP emissions factor approved by us, such as factors from the “Compilation of Air Pollutant Emissions Factors, Volume I: Stationary Point and Area Sources (AP–42),” or organic HAP emissions test data from similar facilities.

(b) For existing facilities and new facilities after startup, you may use the procedures in either paragraph (b)(1) or (2) of this section. If the emission factors for an existing facility have changed over the period of time prior to their initial compliance date due to incorporation of pollution-prevention control techniques, existing facilities may base the average emission factor on their operations as they exist on the compliance date. If an existing facility has accepted an enforceable permit limit that would result in less than 100 tpy of HAP measured prior to any add-on controls, and can demonstrate that they will operate at that level subsequent to the compliance date, they can be deemed to be below the 100 tpy threshold.

(1) *Use a calculated emission factor.* Calculate a weighted average organic HAP emissions factor on a lbs/ton of resin and gel coat basis. Base the weighted average on the prior 12 months of operation. Multiply the weighted average organic HAP emissions factor by resin and gel coat use over the same period. You may calculate this organic HAP emissions factor based on the equations in Table 1 to this subpart, or you may use any organic HAP emissions factor approved by us, such as factors from AP–42, or site-specific organic HAP emissions factors if they are supported by HAP emissions test data.

(2) *Conduct performance testing.* Conduct performance testing using the test procedures in §63.5850 to determine a site-specific organic HAP emissions factor in units of lbs/ton of resin and gel coat used. Conduct the test under conditions expected to result in the highest possible organic HAP emissions. Multiply this factor by annual resin and gel coat use to determine annual organic HAP emissions. This calculation must be repeated and reported annually.

(c) Existing facilities must initially perform this calculation based on their 12 months of operation prior to April 21, 2003, and include this information with their initial notification report. Existing facilities must repeat the calculation based on their resin and gel coat use in the 12 months prior to their initial compliance date, and submit this information with their initial compliance report. After their initial compliance date, existing and new facilities must recalculate organic HAP emissions over the 12-month period ending June 30 or December 31, whichever date is the first date following their compliance date specified in §63.5800. Subsequent calculations should cover the periods in the semiannual compliance reports.

[68 FR 19402, Apr. 21, 2003, as amended at 70 FR 50124, Aug. 25, 2005]

**Compliance Dates and Standards**

**§ 63.5800 When do I have to comply with this subpart?**

You must comply with the standards in this subpart by the dates specified in Table 2 to this subpart. Facilities meeting an organic HAP emissions standard based on a 12-month rolling average must begin collecting data on the compliance date in order to demonstrate compliance.

**§ 63.5805 What standards must I meet to comply with this subpart?**

You must meet the requirements of paragraphs (a) through (h) of this section that apply to you. You may elect to comply using any options to meet the standards described in §§63.5810 through 63.5830. Use the procedures in §63.5799 to determine if you meet or exceed the 100 tpy threshold.

(a) If you have an existing facility that has any centrifugal casting or continuous casting/lamination operations, you must meet the requirements of paragraph (a)(1) or (2) of this section:

(1) If the combination of all centrifugal casting and continuous lamination/casting operations emit 100 tpy or more of HAP, you must reduce the total organic HAP emissions from centrifugal casting and continuous lamination/casting operations by at least 95 percent by weight. As an alternative to meeting the 95 percent by weight requirement, centrifugal casting operations may meet the applicable organic HAP emissions limits in Table 5 to this subpart and continuous lamination/casting operations may meet an organic HAP emissions limit of 1.47 lbs/ton of neat resin plus and neat gel coat plus applied. For centrifugal casting, the percent reduction requirement does not apply to organic HAP emissions that occur during resin application onto an open centrifugal casting mold using open molding application techniques.

(2) If the combination of all centrifugal casting and continuous lamination/casting operations emit less than 100 tpy of HAP, then centrifugal casting and continuous lamination/casting operations must meet the appropriate requirements in Table 3 to this subpart.

(b) All operations at existing facilities not listed in paragraph (a) of this section must meet the organic HAP emissions limits in Table 3 to this subpart and the work practice standards in Table 4 to this subpart that apply, regardless of the quantity of HAP emitted.

(c) If you have a new facility that emits less than 100 tpy of HAP from the combination of all open molding, centrifugal casting, continuous lamination/casting, pultrusion, SMC manufacturing, mixing, and BMC manufacturing, you must meet the organic HAP emissions limits in Table 3 to this subpart and the work practice standards in Table 4 to this subpart that apply to you.

(d)(1) Except as provided in paragraph (d)(2) of this section, if you have a new facility that emits 100 tpy or more of HAP from the combination of all open molding, centrifugal casting, continuous lamination/casting, pultrusion, SMC manufacturing, mixing, and BMC manufacturing, you must reduce the total organic HAP emissions from these operations by at least 95 percent by weight and meet any applicable work practice standards in Table 4 to this subpart that apply to you. As an alternative to meeting 95 percent by weight, you may meet the organic HAP emissions limits in Table 5 to this subpart. If you have a continuous lamination/casting operation, that operation may alternatively meet an organic HAP emissions limit of 1.47 lbs/ton of neat resin plus and neat gel coat plus applied.

(2)(i) If your new facility manufactures large reinforced plastic composites parts using open molding or pultrusion operations, the specific open molding and pultrusion operations used to produce large parts are not required to reduce HAP emissions by 95 weight percent, but must meet the emission limits in Table 3 to this subpart.

(ii) A large open molding part is defined as a part that, when the final finished part is enclosed in the smallest rectangular six-sided box into which the part can fit, the total interior volume of the box exceeds 250 cubic feet, or any interior sides of the box exceed 50 square feet.

(iii) A large pultruded part is a part that exceeds an outside perimeter of 24 inches or has more than 350 reinforcements.

(e) If you have a new or existing facility subject to paragraph (a)(2) or (c) of this section at its initial compliance date that subsequently meets or exceeds the 100 tpy threshold in any calendar year, you must notify your permitting authority in your compliance report. You may at the same time request a one-time exemption from the requirements of paragraph (a)(1) or (d) of this section in your compliance report if you can demonstrate all of the following:

(1) The exceedance of the threshold was due to circumstances that will not be repeated.

(2) The average annual organic HAP emissions from the potentially affected operations for the last 3 years were below 100 tpy.

(3) Projected organic HAP emissions for the next calendar year are below 100 tpy, based on projected resin and gel coat use and the HAP emission factors calculated according to the procedures in §63.5799.

(f) If you apply for an exemption in paragraph (e) of this section and subsequently exceed the HAP emission thresholds specified in paragraph (a)(2) or (c) of this section over the next 12-month period, you must notify the permitting authority in your semiannual report, the exemption is removed, and your facility must comply with paragraph (a)(1) or (d) of this section within 3 years from the time your organic HAP emissions first exceeded the threshold.

(g) If you have repair operations subject to this subpart as defined in §63.5785, these repair operations must meet the requirements in Tables 3 and 4 to this subpart and are not required to meet the 95 percent organic HAP emissions reduction requirements in paragraph (a)(1) or (d) of this section.

(h) If you use an add-on control device to comply with this subpart, you must meet all requirements contained in 40 CFR part 63, subpart SS.

[70 FR 50124, Aug. 25, 2005]

**Options for Meeting Standards**

**§ 63.5810 What are my options for meeting the standards for open molding and centrifugal casting operations at new and existing sources?**

You must use one of the following methods in paragraphs (a) through (d) of this section to meet the standards for open molding or centrifugal casting operations in Table 3 or 5 to this subpart. You may use any control method that reduces organic HAP emissions, including reducing resin and gel coat organic HAP content, changing to nonatomized mechanical application, using covered curing techniques, and routing part or all of your emissions to an add-on control. You may use different compliance options for the different operations listed in Table 3 or 5 to this subpart. The necessary calculations must be completed within 30 days after the end of each month. You may switch between the compliance options in paragraphs (a) through (d) of this section. When you change to an option based on a 12-month rolling average, you must base the average on the previous 12 months of data calculated using the compliance option you are changing to, unless you were previously using an option that did not require you to maintain records of resin and gel coat use. In this case, you must immediately begin collecting resin and gel coat use data and demonstrate compliance 12 months after changing options.

(a) *Demonstrate that an individual resin or gel coat, as applied, meets the applicable emission limit in Table 3 or 5 to this subpart.* (1) Calculate your actual organic HAP emissions factor for each different process stream within each operation type. A process stream is defined as each individual combination of resin or gel coat, application technique, and control technique. Process streams within operations types are considered different from each other if any of the following four characteristics vary: the neat resin plus or neat gel coat plus organic HAP content, the gel coat type, the application technique, or the control technique. You must calculate organic HAP emissions factors for each different process stream by using the appropriate equations in Table 1 to this subpart for open molding and for centrifugal casting, or site-specific organic HAP emissions factors discussed in §63.5796. The emission factor calculation should include any and all emission reduction techniques used including any add-on controls. If you are using vapor suppressants to reduce HAP emissions, you must determine the vapor suppressant effectiveness (VSE) by conducting testing according to the procedures specified in appendix A to subpart WWWW of 40 CFR part 63. If you are using an add-on control device to reduce HAP emissions, you must determine the add-on control factor by conducting capture and control efficiency testing using the procedures specified in §63.5850. The organic HAP emissions factor calculated from the equations in Table 1 to this subpart, or a site-specific emissions factor, is multiplied by the add-on control factor to calculate the organic HAP emissions factor after control. Use Equation 1 of this section to calculate the add-on control factor used in the organic HAP emissions factor equations.

$$\text{Add-on Control Factor} = 1 - \frac{\%\ \text{Control Efficiency}}{100} \qquad \text{(Eq. 1)}$$

Where:

Percent Control Efficiency=a value calculated from organic HAP emissions test measurements made according to the requirements of §63.5850 to this subpart.

(2) If the calculated emission factor is less than or equal to the appropriate emission limit, you have demonstrated that this process stream complies with the emission limit in Table 3 to this subpart. It is not necessary that all your process streams, considered individually, demonstrate compliance to use this option for some process streams. However, for any individual resin or gel coat you use, if any of the process streams that include that resin or gel coat are to be used in any averaging calculations described

in paragraphs (b) through (d) of this section, then all process streams using that individual resin or gel coat must be included in the averaging calculations.

(b) *Demonstrate that, on average, you meet the individual organic HAP emissions limits for each combination of operation type and resin application method or gel coat type.* Demonstrate that on average you meet the individual organic HAP emissions limits for each unique combination of operation type and resin application method or gel coat type shown in Table 3 to this subpart that applies to you.

(1)(i) Group the process streams described in paragraph (a) to this section by operation type and resin application method or gel coat type listed in Table 3 to this subpart and then calculate a weighted average emission factor based on the amounts of each individual resin or gel coat used for the last 12 months. To do this, sum the product of each individual organic HAP emissions factor calculated in paragraph (a)(1) of this section and the amount of neat resin plus and neat gel coat plus usage that corresponds to the individual factors and divide the numerator by the total amount of neat resin plus and neat gel coat plus used in that operation type as shown in Equation 2 of this section.

$$\text{Average organic HAP Emissions Factor} = \frac{\sum_{i=1}^{n}(\text{Actual Process Stream } EF_i * \text{Material}_i)}{\sum_{i=1}^{n} Material_i} \qquad \text{(Eq. 2)}$$

Where:

Actual Process Stream $EF_i$=actual organic HAP emissions factor for process stream i, lbs/ton;

$Material_i$=neat resin plus or neat gel coat plus used during the last 12 calendar months for process stream i, tons;

n=number of process streams where you calculated an organic HAP emissions factor.

(ii) You may, but are not required to, include process streams where you have demonstrated compliance as described in paragraph (a) of this section, subject to the limitations described in paragraph (a)(2) of this section, and you are not required to and should not include process streams for which you will demonstrate compliance using the procedures in paragraph (d) of this section.

(2) Compare each organic HAP emissions factor calculated in paragraph (b)(1) of this section with its corresponding organic HAP emissions limit in Table 3 or 5 to this subpart. If all emissions factors are equal to or less than their corresponding emission limits, then you are in compliance.

(c) *Demonstrate compliance with a weighted average emission limit.* Demonstrate each month that you meet each weighted average of the organic HAP emissions limits in Table 3 or 5 to this subpart that apply to you. When using this option, you must demonstrate compliance with the weighted average organic HAP emissions limit for all your open molding operations, and then separately demonstrate compliance with the weighted average organic HAP emissions limit for all your centrifugal casting operations. Open molding operations and centrifugal casting operations may not be averaged with each other.

(1) Each month calculate the weighted average organic HAP emissions limit for all open molding operations and the weighted average organic HAP emissions limit for all centrifugal casting operations for your facility for the last 12-month period to determine the organic HAP emissions limit you must meet. To do this, multiply the individual organic HAP emissions limits in Table 3 or 5 to this subpart for each open molding (centrifugal casting) operation type by the amount of neat resin plus or neat gel coat plus used in

the last 12 months for each open molding (centrifugal casting) operation type, sum these results, and then divide this sum by the total amount of neat resin plus and neat gel coat plus used in open molding (centrifugal casting) over the last 12 months as shown in Equation 3 of this section.

$$\text{Weighted Average Emission Limit} = \frac{\sum_{i=1}^{n}(EL_i * \text{Material}_i)}{\sum_{i=1}^{n}\text{Material}_i} \qquad \text{(Eq. 3)}$$

Where:

$EL_i$=organic HAP emissions limit for operation type i, lbs/ton from Tables 3 or 5 to this subpart;

$\text{Material}_i$=neat resin plus or neat gel coat plus used during the last 12-month period for operation type i, tons;

n=number of operations.

(2) Each month calculate your weighted average organic HAP emissions factor for open molding and centrifugal casting. To do this, multiply your actual open molding (centrifugal casting) operation organic HAP emissions factors calculated in paragraph (b)(1) of this section and the amount of neat resin plus and neat gel coat plus used in each open molding (centrifugal casting) operation type, sum the results, and divide this sum by the total amount of neat resin plus and neat gel coat plus used in open molding (centrifugal casting) operations as shown in Equation 4 of this section.

$$\text{Actual Weighted Average organic HAP Emissions Factor} = \frac{\sum_{i=1}^{n}(\text{Actual Operation } EF_i * \text{Material}_i)}{\sum_{i=1}^{n}Material_i} \qquad \text{(Eq. 4)}$$

Where:

Actual Individual $EF_i$=Actual organic HAP emissions factor for operation type i, lbs/ton;

$\text{Material}_i$=neat resin plus or neat gel coat plus used during the last 12 calendar months for operation type i, tons;

n=number of operations.

(3) Compare the values calculated in paragraphs (c)(1) and (2) of this section. If each 12-month rolling average organic HAP emissions factor is less than or equal to the corresponding 12-month rolling average organic HAP emissions limit, then you are in compliance.

(d) *Meet the organic HAP emissions limit for one application method and use the same resin(s) for all application methods of that resin type.* This option is limited to resins of the same type. The resin types for which this option may be used are noncorrosion-resistant, corrosion-resistant and/or high strength, and tooling.

(1) For any combination of manual resin application, mechanical resin application, filament application, or centrifugal casting, you may elect to meet the organic HAP emissions limit for any one of these application methods and use the same resin in all of the resin application methods listed in this paragraph (d)(1). Table 7 to this subpart presents the possible combinations based on a facility selecting the application process that results in the highest allowable organic HAP content resin. If the resin organic HAP content is below the applicable value shown in Table 7 to this subpart, the resin is in compliance.

(2) You may also use a weighted average organic HAP content for each application method described in paragraph (d)(1) of this section. Calculate the weighted average organic HAP content monthly. Use Equation 2 in paragraph (b)(1) of this section except substitute organic HAP content for organic HAP emissions factor. You are in compliance if the weighted average organic HAP content based on the last 12 months of resin use is less than or equal to the applicable organic HAP contents in Table 7 to this subpart.

(3) You may simultaneously use the averaging provisions in paragraph (b) or (c) of this section to demonstrate compliance for any operations and/or resins you do not include in your compliance demonstrations in paragraphs (d)(1) and (2) of this section. However, any resins for which you claim compliance under the option in paragraphs (d)(1) and (2) of this section may not be included in any of the averaging calculations described in paragraph (b) or (c) of this section.

(4) You do not have to keep records of resin use for any of the individual resins where you demonstrate compliance under the option in paragraph (d)(1) of this section unless you elect to include that resin in the averaging calculations described in paragraph (d)(2) of this section.

[70 FR 50125, Aug. 25, 2005]

**§ 63.5820 What are my options for meeting the standards for continuous lamination/casting operations?**

You must use one or more of the options in paragraphs (a) through (d) of this section to meet the standards in §63.5805. Use the calculation procedures in §§63.5865 through 63.5890.

(a) *Compliant line option.* Demonstrate that each continuous lamination line and each continuous casting line complies with the applicable standard.

(b) *Averaging option.* Demonstrate that all continuous lamination and continuous casting lines combined, comply with the applicable standard.

(c) *Add-on control device option.* If your operation must meet the 58.5 weight percent organic HAP emissions reduction limit in Table 3 to this subpart, you have the option of demonstrating that you achieve 95 percent reduction of all wet-out area organic HAP emissions.

(d) *Combination option.* Use any combination of options in paragraphs (a) and (b) of this section or, for affected sources at existing facilities, any combination of options in paragraphs (a), (b), and (c) of this section (in which one or more lines meet the standards on their own, two or more lines averaged together meet the standards, and one or more lines have their wet-out areas controlled to a level of 95 percent).

**§ 63.5830 What are my options for meeting the standards for pultrusion operations subject to the 60 weight percent organic HAP emissions reductions requirement?**

You must use one or more of the options in paragraphs (a) through (e) of this section to meet the 60 weight percent organic HAP emissions limit in Table 3 to this subpart, as required in §63.5805.

(a) Achieve an overall reduction in organic HAP emissions of 60 weight percent by capturing the organic HAP emissions and venting them to a control device or any combination of control devices. Conduct capture and destruction efficiency testing as specified in 63.5850 to this subpart to determine the percent organic HAP emissions reduction.

(b) Design, install, and operate wet area enclosures and resin drip collection systems on pultrusion machines that meet the criteria in paragraphs (b)(1) through (10) of this section.

(1) The enclosure must cover and enclose the open resin bath and the forming area in which reinforcements are pre-wet or wet-out and moving toward the die(s). The surfaces of the enclosure must be closed except for openings to allow material to enter and exit the enclosure.

(2) For open bath pultrusion machines with a radio frequency pre-heat unit, the enclosure must extend from the beginning of the resin bath to within 12.5 inches or less of the entrance of the radio frequency pre-heat unit. If the stock that is within 12.5 inches or less of the entrance to the radio frequency pre-heat unit has any drip, it must be enclosed. The stock exiting the radio frequency pre-heat unit is not required to be in an enclosure if the stock has no drip between the exit of the radio frequency pre-heat unit to within 0.5 inches of the entrance of the die.

(3) For open bath pultrusion machines without a radio frequency pre-heat unit, the enclosure must extend from the beginning of the resin bath to within 0.5 inches or less of the die entrance.

(4) For pultrusion lines with pre-wet area(s) prior to direct die injection, no more than 12.5 inches of open wet stock is permitted between the entrance of the first pre-wet area and the entrance to the die. If the pre-wet stock has any drip, it must be enclosed.

(5) The total open area of the enclosure must not exceed two times the cross sectional area of the puller window(s) and must comply with the requirements in paragraphs (b)(5)(i) through (iii) of this section.

(i) All areas that are open need to be included in the total open area calculation with the exception of access panels, doors, and/or hatches that are part of the enclosure.

(ii) The area that is displaced by entering reinforcement or exiting product is considered open.

(iii) Areas that are covered by brush covers are considered closed.

(6) Open areas for level control devices, monitoring devices, agitation shafts, and fill hoses must have no more than 1.0 inch clearance.

(7) The access panels, doors, and/or hatches that are part of the enclosure must close tightly. Damaged access panels, doors, and/or hatches that do not close tightly must be replaced.

(8) The enclosure may not be removed from the pultrusion line, and access panels, doors, and/or hatches that are part of the enclosure must remain closed whenever resin is in the bath, except for the time period discussed in paragraph (b)(9) of this section.

(9) The maximum length of time the enclosure may be removed from the pultrusion line or the access panels, doors, and/or hatches and may be open, is 30 minutes per 8 hour shift, 45 minutes per 12 hour shift, or 90 minutes per day if the machine is operated for 24 hours in a day. The time restrictions do not apply if the open doors or panels do not cause the limit of two times the puller window area to be exceeded. Facilities may average the times that access panels, doors, and/or hatches are open across all operating lines. In that case the average must not exceed the times shown in this paragraph (b)(9). All lines included in the average must have operated the entire time period being averaged.

(10) No fans, blowers, and/or air lines may be allowed within the enclosure. The enclosure must not be ventilated.

(c) Use direct die injection pultrusion machines with resin drip collection systems that meet all the criteria specified in paragraphs (c)(1) through (3) of this section.

(1) All the resin that is applied to the reinforcement is delivered directly to the die.

(2) No exposed resin is present, except at the face of the die.

(3) Resin drip is captured in a closed system and recycled back to the process.

(d) Use a preform injection system that meets the definition in §63.5935

(e) Use any combination of options in paragraphs (a) through (d) of this section in which different pultrusion lines comply with different options described in paragraphs (a) through (d) of this section, and

(1) Each individual pultrusion machine meets the 60 percent reduction requirement, or

(2) The weighted average reduction based on resin throughput of all machines combined is 60 percent. For purposes of the average percent reduction calculation, wet area enclosures reduce organic HAP emissions by 60 percent, and direct die injection and preform injection reduce organic HAP emissions by 90 percent.

[68 FR 19402, Apr. 21, 2003, as amended at 70 FR 50127, Aug. 25, 2005]

**General Compliance Requirements**

**§ 63.5835 What are my general requirements for complying with this subpart?**

(a) You must be in compliance at all times with the work practice standards in Table 4 to this subpart, as well as the organic HAP emissions limits in Tables 3, or 5, or the organic HAP content limits in Table 7 to this subpart, as applicable, that you are meeting without the use of add-on controls.

(b) You must be in compliance with all organic HAP emissions limits in this subpart that you meet using add-on controls, except during periods of startup, shutdown, and malfunction.

(c) You must always operate and maintain your affected source, including air pollution control and monitoring equipment, according to the provisions in §63.6(e)(1)(i).

(d) You must develop a written startup, shutdown, and malfunction plan according to the provisions in §63.6(e)(3) for any organic HAP emissions limits you meet using an add-on control.

[68 FR 19402, Apr. 21, 2003, as amended at 71 FR 20466, Apr. 20, 2006]

## Testing and Initial Compliance Requirements

### § 63.5840 By what date must I conduct a performance test or other initial compliance demonstration?

You must conduct performance tests, performance evaluations, design evaluations, capture efficiency testing, and other initial compliance demonstrations by the compliance date specified in Table 2 to this subpart, with three exceptions. Open molding and centrifugal casting operations that elect to meet an organic HAP emissions limit on a 12-month rolling average must initiate collection of the required data on the compliance date, and demonstrate compliance 1 year after the compliance date. New sources that use add-on controls to initially meet compliance must demonstrate compliance within 180 days after their compliance date.

### § 63.5845 When must I conduct subsequent performance tests?

You must conduct a performance test every 5 years following the initial performance test for any standard you meet with an add-on control device.

### § 63.5850 How do I conduct performance tests, performance evaluations, and design evaluations?

(a) If you are using any add-on controls to meet an organic HAP emissions limit in this subpart, you must conduct each performance test, performance evaluation, and design evaluation in 40 CFR part 63, subpart SS, that applies to you. The basic requirements for performance tests, performance evaluations, and design evaluations are presented in Table 6 to this subpart.

(b) Each performance test must be conducted according to the requirements in §63.7(e)(1) and under the specific conditions that 40 CFR part 63, subpart SS, specifies.

(c) Each performance evaluation must be conducted according to the requirements in §63.8(e) as applicable and under the specific conditions that 40 CFR part 63, subpart SS, specifies.

(d) You may not conduct performance tests or performance evaluations during periods of startup, shutdown, or malfunction, as specified in §63.7(e)(1).

(e) You must conduct the control device performance test using the emission measurement methods specified in paragraphs (e)(1) through (5) of this section.

(1) Use either Method 1 or 1A of appendix A to 40 CFR part 60, as appropriate, to select the sampling sites.

(2) Use Method 2, 2A, 2C, 2D, 2F or 2G of appendix A to 40 CFR part 60, as appropriate, to measure gas volumetric flow rate.

(3) Use Method 18 of appendix A to 40 CFR part 60 to measure organic HAP emissions or use Method 25A of appendix A to 40 CFR part 60 to measure total gaseous organic emissions as a surrogate for total organic HAP emissions. If you use Method 25A, you must assume that all gaseous organic emissions measured as carbon are organic HAP emissions. If you use Method 18 and the number of organic HAP in the exhaust stream exceeds five, you must take into account the use of multiple chromatographic columns and analytical techniques to get an accurate measure of at least 90 percent of the total organic HAP mass emissions. Do not use Method 18 to measure organic HAP emissions from a combustion device; use instead Method 25A and assume that all gaseous organic mass emissions measured as carbon are organic HAP emissions.

(4) You may use American Society for Testing and Materials (ASTM) D6420–99 (available for purchase from at least one of the following addresses: 100 Barr Harbor Drive, West Conshohocken, PA 19428–2959; or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.) in lieu of Method 18 of 40 CFR part 60, appendix A, under the conditions specified in paragraphs (c)(4)(i) through (iii) of this section.

(i) If the target compound(s) is listed in Section 1.1 of ASTM D6420–99 and the target concentration is between 150 parts per billion by volume and 100 parts per million by volume.

(ii) If the target compound(s) is not listed in Section 1.1 of ASTM D6420–99, but is potentially detected by mass spectrometry, an additional system continuing calibration check after each run, as detailed in Section 10.5.3 of ASTM D6420–99, must be followed, met, documented, and submitted with the performance test report even if you do not use a moisture condenser or the compound is not considered soluble.

(iii) If a minimum of one sample/analysis cycle is completed at least every 15 minutes.

(5) Use the procedures in EPA Method 3B of appendix A to 40 CFR part 60 to determine an oxygen correction factor if required by §63.997(e)(2)(iii)(C). You may use American Society of Mechanical Engineers (ASME) PTC 19–10–1981–Part 10 (available for purchase from ASME, P.O. Box 2900, 22 Law Drive, Fairfield, New Jersey, 07007–2900, or online at *www.asme.org/catalog* ) as an alternative to EPA Method 3B of appendix A to 40 CFR part 60.

(f) The control device performance test must consist of three runs and each run must last at least 1 hour. The production conditions during the test runs must represent normal production conditions with respect to the types of parts being made and material application methods. The production conditions during the test must also represent maximum potential emissions with respect to the organic HAP content of the materials being applied and the material application rates.

(g) If you are using a concentrator/oxidizer control device, you must test the combined flow upstream of the concentrator, and the combined outlet flow from both the oxidizer and the concentrator to determine the overall control device efficiency. If the outlet flow from the concentrator and oxidizer are exhausted in separate stacks, you must test both stacks simultaneously with the inlet to the concentrator to determine the overall control device efficiency.

(h) During the test, you must also monitor and record separately the amounts of production resin, tooling resin, pigmented gel coat, clear gel coat, and tooling gel coat applied inside the enclosure that is vented to the control device.

**§ 63.5855 What are my monitor installation and operation requirements?**

You must monitor and operate all add-on control devices according to the procedures in 40 CFR part 63, subpart SS.

**§ 63.5860 How do I demonstrate initial compliance with the standards?**

(a) You demonstrate initial compliance with each organic HAP emissions standard in paragraphs (a) through (h) of §63.5805 that applies to you by using the procedures shown in Tables 8 and 9 to this subpart.

(b) If using an add-on control device to demonstrate compliance, you must also establish each control device operating limit in 40 CFR part 63, subpart SS, that applies to you.

Emission Factor, Percent Reduction, and Capture Efficiency Calculation Procedures for Continuous Lamination/Casting Operations

**§ 63.5865 What data must I generate to demonstrate compliance with the standards for continuous lamination/casting operations?**

(a) For continuous lamination/casting affected sources complying with a percent reduction requirement, you must generate the data identified in Tables 10 and 11 to this subpart for each data requirement that applies to your facility.

(b) For continuous lamination/casting affected sources complying with a lbs/ton limit, you must generate the data identified in Tables 11 and 12 to this subpart for each data requirement that applies to your facility.

**§ 63.5870 How do I calculate annual uncontrolled and controlled organic HAP emissions from my wet-out area(s) and from my oven(s) for continuous lamination/casting operations?**

To calculate your annual uncontrolled and controlled organic HAP emissions from your wet-out areas and from your ovens, you must develop uncontrolled and controlled wet-out area and uncontrolled and controlled oven organic HAP emissions estimation equations or factors to apply to each formula applied on each line, determine how much of each formula for each end product is applied each year on each line, and assign uncontrolled and controlled wet-out area and uncontrolled and controlled oven organic HAP emissions estimation equations or factors to each formula. You must determine the overall capture efficiency using the procedures in §63.5850 to this subpart.

(a) To develop uncontrolled and controlled organic HAP emissions estimation equations and factors, you must, at a minimum, do the following, as specified in paragraphs (a)(1) through (6) of this section:

(1) Identify each end product and the thickness of each end product produced on the line. Separate end products into the following end product groupings, as applicable: corrosion-resistant gel coated end products, noncorrosion-resistant gel coated end products, corrosion-resistant nongel coated end products, and noncorrosion-resistant nongel coated end products. This step creates end product/thickness combinations.

(2) Identify each formula used on the line to produce each end product/thickness combination. Identify the amount of each such formula applied per year. Rank each formula used to produce each end product/thickness combination according to usage within each end product/thickness combination.

(3) For each end product/thickness combination being produced, select the formula with the highest usage rate for testing.

(4) If not already selected, also select the worst-case formula (likely to be associated with the formula with the highest organic HAP content, type of HAP, application of gel coat, thin product, low line speed, higher resin table temperature) amongst all formulae. (You may use the results of the worst-case formula test for all formulae if desired to limit the amount of testing required.)

(5) For each formula selected for testing, conduct at least one test (consisting of three runs). During the test, track information on organic HAP content and type of HAP, end product thickness, line speed, and resin temperature on the wet-out area table.

(6) Using the test results, develop uncontrolled and controlled organic HAP emissions estimation equations (or factors) or series of equations (or factors) that best fit the results for estimating uncontrolled

and controlled organic HAP emissions, taking into account the organic HAP content and type of HAP, end product thickness, line speed, and resin temperature on the wet-out area table.

(b) In lieu of using the method specified in paragraph (a) of this section for developing uncontrolled and controlled organic HAP emissions estimation equations and factors, you may either method specified in paragraphs (b)(1) and (2) of this section, as applicable.

(1) For either uncontrolled or controlled organic HAP emissions estimates, you may use previously established, facility-specific organic HAP emissions equations or factors, provided they allow estimation of both wet-out area and oven organic HAP emissions, where necessary, and have been approved by your permitting authority. If a previously established equation or factor is specific to the wet-out area only, or to the oven only, then you must develop the corresponding uncontrolled or controlled equation or factor for the other organic HAP emissions source.

(2) For uncontrolled (controlled) organic HAP emissions estimates, you may use controlled (uncontrolled) organic HAP emissions estimates and control device destruction efficiency to calculate your uncontrolled (controlled) organic HAP emissions provided the control device destruction efficiency was calculated at the same time you collected the data to develop your facility's controlled (uncontrolled) organic HAP emissions estimation equations and factors.

(c) Assign to each formula an uncontrolled organic HAP emissions estimation equation or factor based on the end product/thickness combination for which that formula is used.

(d)(1) To calculate your annual uncontrolled organic HAP emissions from wet-out areas that do not have any capture and control and from wet-out areas that are captured by an enclosure but are vented to the atmosphere and not to a control device, multiply each formula's annual usage by its appropriate organic HAP emissions estimation equation or factor and sum the individual results.

(2) To calculate your annual uncontrolled organic HAP emissions that escape from the enclosure on the wet-out area, multiply each formula's annual usage by its appropriate uncontrolled organic HAP emissions estimation equation or factor, sum the individual results, and multiply the summation by 1 minus the percent capture (expressed as a fraction).

(3) To calculate your annual uncontrolled oven organic HAP emissions, multiply each formula's annual usage by its appropriate uncontrolled organic HAP emissions estimation equation or factor and sum the individual results.

(4) To calculate your annual controlled organic HAP emissions, multiply each formula's annual usage by its appropriate organic HAP emissions estimation equation or factor and sum the individual results to obtain total annual controlled organic HAP emissions.

(e) Where a facility is calculating both uncontrolled and controlled organic HAP emissions estimation equations and factors, you must test the same formulae. In addition, you must develop both sets of equations and factors from the same tests.

**§ 63.5875 How do I determine the capture efficiency of the enclosure on my wet-out area and the capture efficiency of my oven(s) for continuous lamination/casting operations?**

(a) The capture efficiency of a wet-out area enclosure is assumed to be 100 percent if it meets the design and operation requirements for a permanent total enclosure (PTE) specified in EPA Method 204 of appendix M to 40 CFR part 51. If a PTE does not exist, then a temporary total enclosure must be constructed and verified using EPA Method 204, and capture efficiency testing must be determined using EPA Methods 204B through E of appendix M to 40 CFR part 51.

(b) The capture efficiency of an oven is to be considered 100 percent, provided the oven is operated under negative pressure.

**§ 63.5880 How do I determine how much neat resin plus is applied to the line and how much neat gel coat plus is applied to the line for continuous lamination/casting operations?**

Use the following procedures to determine how much neat resin plus and neat gel coat plus is applied to the line each year.

(a) Track formula usage by end product/thickness combinations.

(b) Use in-house records to show usage. This may be either from automated systems or manual records.

(c) Record daily the usage of each formula/end product combination on each line. This is to be recorded at the end of each run ( *i.e.,* when a changeover in formula or product is made) and at the end of each shift.

(d) Sum the amounts from the daily records to calculate annual usage of each formula/end product combination by line.

**§ 63.5885 How do I calculate percent reduction to demonstrate compliance for continuous lamination/casting operations?**

You may calculate percent reduction using any of the methods in paragraphs (a) through (d) of this section.

(a) *Compliant line option.* If all of your wet-out areas have PTE that meet the requirements of EPA Method 204 of appendix M of 40 CFR part 51, and all of your wet-out area organic HAP emissions and oven organic HAP emissions are vented to an add-on control device, use Equation 1 of this section to demonstrate compliance. In all other situations, use Equation 2 of this section to demonstrate compliance.

$$PR = \frac{(\text{Inlet}) - (\text{Outlet})}{(\text{Inlet})} \times 100 \qquad \text{(Eq. 1)}$$

Where:

PR=percent reduction;

Inlet+HAP emissions entering the control device, lbs per year;

Outlet=HAP emissions existing the control device to the atmosphere, lbs per year.

$$PR = \frac{(\text{WAE}_{ci} + O_{ci}) - (\text{WAE}_{co} + O_{co})}{(\text{WAE}_{ci} + \text{WAE}_{u} + \text{O}_{ci} + \text{O}_{u})} \times 100 \qquad \text{(Eq. 2)}$$

Where:

PR=percent reduction;

$WAEi_{ci}$=wet-out area organic HAP emissions, lbs per year, vented to a control device;

$WAEi_u$=wet-out area organic HAP emissions, lbs per year, not vented to a control device;

$Oj_u$=oven organic HAP emissions, lbs per year, not vented to a control device;

$Oj_{ci}$=oven organic HAP emissions, lbs per year, vented to a control device;

$WAEi_{co}$=wet-out area organic HAP emissions, lbs per year, from the control device outlet;

$Oj_{co}$=oven organic HAP emissions, lbs per year, from the control device outlet.

(b) *Averaging option.* Use Equation 3 of this section to calculate percent reduction.

$$PR = \frac{\left(\sum_{i=1}^{m} \mathrm{WAEi_{ci}} + \sum_{j=1}^{n} Oj_{ci}\right) - \left(\sum_{i=1}^{m} \mathrm{WAEi_{co}} + \sum_{j=1}^{n} Oj_{co}\right)}{\left(\sum_{i=1}^{m} \mathrm{WAEi_{ci}} + \sum_{j=1}^{n} Oj_{ci} + \sum_{i=1}^{m} \mathrm{WAEi_{u}} + \sum_{j=1}^{n} Oj_{u}\right)} \times 100 \qquad \text{(Eq. 3)}$$

Where:

PR=percent reduction;

$WAEi_{ci}$=wet-out area organic HAP emissions from wet-out area i, lbs per year, sent to a control device;

$WAEi_u$=wet-out area organic HAP emissions from wet-out area i, lbs per year, not sent to a control device;

$WAEi_{co}$=wet-out area organic HAP emissions from wet-out area i, lbs per year, at the outlet of a control device;

$Oj_u$=organic HAP emissions from oven j, lbs per year, not sent to a control device;

$Oj_{ci}$=organic HAP emissions from oven j, lbs per year, sent to a control device;

$Oj_{co}$=organic HAP emissions from oven j, lbs per year, at the outlet of the control device;

m=number of wet-out areas;

n=number of ovens.

(c) *Add-on control device option.* Use Equation 1 of this section to calculate percent reduction.

(d) *Combination option.* Use Equations 1 through 3 of this section, as applicable, to calculate percent reduction.

[70 FR 50127, Aug. 25, 2005]

**§ 63.5890 How do I calculate an organic HAP emissions factor to demonstrate compliance for continuous lamination/casting operations?**

(a) *Compliant line option.* Use Equation 1 of this section to calculate an organic HAP emissions factor in lbs/ton.

$$E = \frac{WAE_u + WAE_c + O_u + O_c}{(R+G)} \quad (Eq.\ 1)$$

Where:

E=HAP emissions factor in lbs/ton of resin and gel coat

$WAE_u$=uncontrolled wet-out area organic HAP emissions, lbs per year

$WAE_c$=controlled wet-out area organic HAP emissions, lbs per year

$O_u$=uncontrolled oven organic HAP emissions, lbs per year

$O_c$=controlled oven organic HAP emissions, lbs per year

R=total usage of neat resin plus, tpy

G=total usage of neat gel coat plus, tpy

(b) *Averaging option.* Use Equation 2 of this section to demonstrate compliance.

$$E = \frac{\sum_{i=1}^{m} WAE_{ui} + \sum_{i=1}^{o} WAE_{ci} + \sum_{j=1}^{n} O_{uj} + \sum_{j=1}^{p} O_{cj}}{(R+G)} \quad (Eq.\ 2)$$

Where:

E=HAP emissions factor in lbs/ton of resin and gel coat

$WAE_{ui}$=uncontrolled organic HAP emissions from wet-out area i, lbs per year

$WAE_{ci}$=controlled organic HAP emissions from wet-out area i, lbs per year

$O_{uj}$=uncontrolled organic HAP emissions from oven j, lbs per year

$O_{cj}$=controlled organic HAP emissions from oven j, lbs per year

i=number of wet-out areas

j=number of ovens

m=number of wet-out areas uncontrolled

n=number of ovens uncontrolled

o=number of wet-out areas controlled

p=number of ovens controlled

R=total usage of neat resin plus, tpy

G=total usage of neat gel coat plus, tpy

(c) *Combination option.* Use Equations 1 and 2 of this section, as applicable, to demonstrate compliance.

**Continuous Compliance Requirements**

**§ 63.5895 How do I monitor and collect data to demonstrate continuous compliance?**

(a) During production, you must collect and keep a record of data as indicated in 40 CFR part 63, subpart SS, if you are using an add-on control device.

(b) You must monitor and collect data as specified in paragraphs (b)(1) through (4) of this section.

(1) Except for monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), you must conduct all monitoring in continuous operation (or collect data at all required intervals) at all times that the affected source is operating.

(2) You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities for purposes to this subpart, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. You must use all the data collected during all other periods in assessing the operation of the control device and associated control system.

(3) At all times, you must maintain necessary parts for routine repairs of the monitoring equipment.

(4) A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring equipment to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

(c) You must collect and keep records of resin and gel coat use, organic HAP content, and operation where the resin is used if you are meeting any organic HAP emissions limits based on an organic HAP emissions limit in Tables 3 or 5 to this subpart. You must collect and keep records of resin and gel coat use, organic HAP content, and operation where the resin is used if you are meeting any organic HAP content limits in Table 7 to this subpart if you are averaging organic HAP contents. Resin use records may be based on purchase records if you can reasonably estimate how the resin is applied. The organic HAP content records may be based on MSDS or on resin specifications supplied by the resin supplier.

(d) Resin and gel coat use records are not required for the individual resins and gel coats that are demonstrated, as applied, to meet their applicable emission as defined in §63.5810(a). However, you must retain the records of resin and gel coat organic HAP content, and you must include the list of these resins and gel coats and identify their application methods in your semiannual compliance reports. If after you have initially demonstrated that a specific combination of an individual resin or gel coat, application method, and controls meets its applicable emission limit, and the resin or gel coat changes or the organic

HAP content increases, or you change the application method or controls, then you again must demonstrate that the individual resin or gel coat meets its emission limit as specified in paragraph (a) of §63.5810. If any of the previously mentioned changes results in a situation where an individual resin or gel coat now exceeds its applicable emission limit in Table 3 or 5 of this subpart, you must begin collecting resin and gel coat use records and calculate compliance using one of the averaging options on a 12-month rolling average.

(e) For each of your pultrusion machines, you must record all times that wet area enclosures doors or covers are open and there is resin present in the resin bath.

[68 FR 19402, Apr. 21, 2003, as amended at 70 FR 50128, Aug. 25, 2005]

**§ 63.5900 How do I demonstrate continuous compliance with the standards?**

(a) You must demonstrate continuous compliance with each standard in §63.5805 that applies to you according to the methods specified in paragraphs (a)(1) through (3) of this section.

(1) Compliance with organic HAP emissions limits for sources using add-on control devices is demonstrated following the procedures in 40 CFR part 63, subpart SS. Sources using add-on controls may also use continuous emissions monitors to demonstrate continuous compliance as an alternative to control parameter monitoring.

(2) Compliance with organic HAP emissions limits is demonstrated by maintaining an organic HAP emissions factor value less than or equal to the appropriate organic HAP emissions limit listed in Table 3 or 5 to this subpart, on a 12-month rolling average, and/or by including in each compliance report a statement that individual resins and gel coats, as applied, meet the appropriate organic HAP emissions limits, as discussed in §63.5895(d).

(3) Compliance with organic HAP content limits in Table 7 to this subpart is demonstrated by maintaining an average organic HAP content value less than or equal to the appropriate organic HAP contents listed in Table 7 to this subpart, on a 12-month rolling average, and/or by including in each compliance report a statement that resins and gel coats individually meet the appropriate organic HAP content limits in Table 7 to this subpart, as discussed in §63.5895(d).

(4) Compliance with the work practice standards in Table 4 to this subpart is demonstrated by performing the work practice required for your operation.

(b) You must report each deviation from each standard in §63.5805 that applies to you. The deviations must be reported according to the requirements in §63.5910.

(c) Except as provided in paragraph (d) of this section, during periods of startup, shutdown or malfunction, you must meet the organic HAP emissions limits and work practice standards that apply to you.

(d) When you use an add-on control device to meet standards in §63.5805, you are not required to meet those standards during periods of startup, shutdown, or malfunction, but you must operate your affected source to minimize emissions in accordance with §63.6(e)(1).

(e) Consistent with §§63.6(e) and 63.7(e)(1), deviations that occur during a period of malfunction for those affected sources and standards specified in paragraph (d) of this section are not violations if you demonstrate to the Administrator's satisfaction that you were operating in accordance with §63.6(e)(1). The Administrator will determine whether deviations that occur during a period of startup, shutdown, and malfunction are violations, according to the provisions in §63.6(e).

[68 FR 19402, Apr. 21, 2003, as amended at 70 FR 50128, Aug. 25, 2005; 71 FR 20466, Apr. 20, 2006]

**Notifications, Reports, and Records**

**§ 63.5905 What notifications must I submit and when?**

(a) You must submit all of the notifications in Table 13 to this subpart that apply to you by the dates specified in Table 13 to this subpart. The notifications are described more fully in 40 CFR part 63, subpart A, referenced in Table 13 to this subpart.

(b) If you change any information submitted in any notification, you must submit the changes in writing to the Administrator within 15 calendar days after the change.

**§ 63.5910 What reports must I submit and when?**

(a) You must submit each report in Table 14 to this subpart that applies to you.

(b) Unless the Administrator has approved a different schedule for submission of reports under §63.10(a), you must submit each report by the date specified in Table 14 to this subpart and according to paragraphs (b)(1) through (5) of this section.

(1) The first compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.5800 and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in §63.5800.

(2) The first compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified for your affected source in §63.5800.

(3) Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(4) Each subsequent compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

(5) For each affected source that is subject to permitting requirements pursuant to 40 CFR part 70 or 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to §70.6 (a)(3)(iii)(A) or §71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (4) of this section.

(c) The compliance report must contain the information in paragraphs (c)(1) through (6) of this section:

(1) Company name and address.

(2) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

(3) Date of the report and beginning and ending dates of the reporting period.

(4) If you had a startup, shutdown, or malfunction during the reporting period and you took actions consistent with your startup, shutdown, and malfunction plan, the compliance report must include the information in §63.10(d)(5)(i).

(5) If there are no deviations from any organic HAP emissions limitations (emissions limit and operating limit) that apply to you, and there are no deviations from the requirements for work practice standards in Table 4 to this subpart, a statement that there were no deviations from the organic HAP emissions limitations or work practice standards during the reporting period.

(6) If there were no periods during which the continuous monitoring system (CMS), including a continuous emissions monitoring system (CEMS) and an operating parameter monitoring system were out of control, as specified in §63.8(c)(7), a statement that there were no periods during which the CMS was out of control during the reporting period.

(d) For each deviation from an organic HAP emissions limitation ( *i.e.,* emissions limit and operating limit) and for each deviation from the requirements for work practice standards that occurs at an affected source where you are not using a CMS to comply with the organic HAP emissions limitations or work practice standards in this subpart, the compliance report must contain the information in paragraphs (c)(1) through (4) of this section and in paragraphs (d)(1) and (2) of this section. This includes periods of startup, shutdown, and malfunction.

(1) The total operating time of each affected source during the reporting period.

(2) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

(e) For each deviation from an organic HAP emissions limitation ( *i.e.,* emissions limit and operating limit) occurring at an affected source where you are using a CMS to comply with the organic HAP emissions limitation in this subpart, you must include the information in paragraphs (c)(1) through (4) of this section and in paragraphs (e)(1) through (12) of this section. This includes periods of startup, shutdown, and malfunction.

(1) The date and time that each malfunction started and stopped.

(2) The date and time that each CMS was inoperative, except for zero (low-level) and high-level checks.

(3) The date, time, and duration that each CMS was out of control, including the information in §63.8(c)(8).

(4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction, or during another period.

(5) A summary of the total duration of the deviation during the reporting period and the total duration as a percent of the total source operating time during that reporting period.

(6) A breakdown of the total duration of the deviations during the reporting period into those that are due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of CMS downtime during the reporting period and the total duration of CMS downtime as a percent of the total source operating time during that reporting period.

(8) An identification of each organic HAP that was monitored at the affected source.

(9) A brief description of the process units.

(10) A brief description of the CMS.

(11) The date of the latest CMS certification or audit.

(12) A description of any changes in CMS, processes, or controls since the last reporting period.

(f) You must report if you have exceeded the 100 tpy organic HAP emissions threshold if that exceedance would make your facility subject to §63.5805(a)(1) or (d). Include with this report any request for an exemption under §63.5805(e). If you receive an exemption under §63.5805(e) and subsequently exceed the 100 tpy organic HAP emissions threshold, you must report this exceedance as required in §63.5805(f).

(g) Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 71 must report all deviations as defined in this subpart in the semiannual monitoring report required by §70.6(a)(3)(iii)(A) or §71.6(a)(3)(iii)(A). If an affected source submits a compliance report pursuant to Table 14 to this subpart along with, or as part of, the semiannual monitoring report required by §70.6(a)(3)(iii)(A) or §71.6(a)(3)(iii)(A), and the compliance report includes all required information concerning deviations from any organic HAP emissions limitation (including any operating limit) or work practice requirement in this subpart, submission of the compliance report shall be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permitting authority.

(h) Submit compliance reports and startup, shutdown, and malfunction reports based on the requirements in table 14 to this subpart, and not based on the requirements in §63.999.

(i) Where multiple compliance options are available, you must state in your next compliance report if you have changed compliance options since your last compliance report.

[68 FR 19402, Apr. 21, 2003, as amended at 70 FR 50128, Aug. 25, 2005]

**§ 63.5915 What records must I keep?**

(a) You must keep the records listed in paragraphs (a)(1) through (3) of this section.

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirements in §63.10(b)(2)(xiv).

(2) The records in §63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.

(3) Records of performance tests, design, and performance evaluations as required in §63.10(b)(2).

(b) If you use an add-on control device, you must keep all records required in 40 CFR part 63, subpart SS, to show continuous compliance with this subpart.

(c) You must keep all data, assumptions, and calculations used to determine organic HAP emissions factors or average organic HAP contents for operations listed in tables 3, 5, and 7 to this subpart.

(d) You must keep a certified statement that you are in compliance with the work practice requirements in Table 4 to this subpart, as applicable.

(e) For a new or existing continuous lamination/ casting operation, you must keep the records listed in paragraphs (e)(1) through (4) of this section, when complying with the percent reduction and/or lbs/ton requirements specified in paragraphs (a) and (c) through (d) of §63.5805.

(1) You must keep all data, assumptions, and calculations used to determine percent reduction and/or lbs/ton as applicable;

(2) You must keep a brief description of the rationale for the assignment of an equation or factor to each formula;

(3) When using facility-specific organic HAP emissions estimation equations or factors, you must keep all data, assumptions, and calculations used to derive the organic HAP emissions estimation equations and factors and identification and rationale for the worst-case formula; and

(4) For all organic HAP emissions estimation equations and organic HAP emissions factors, you must keep documentation that the appropriate permitting authority has approved them.

[68 FR 19402, Apr. 21, 2003, as amended at 70 FR 50129, Aug. 25, 2005]

**§ 63.5920 In what form and how long must I keep my records?**

(a) You must maintain all applicable records in such a manner that they can be readily accessed and are suitable for inspection according to §63.10(b)(1).

(b) As specified in §63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record onsite for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1). You can keep the records offsite for the remaining 3 years.

(d) You may keep records in hard copy or computer readable form including, but not limited to, paper, microfilm, computer floppy disk, magnetic tape, or microfiche.

**Other Requirements and Information**

**§ 63.5925 What parts of the General Provisions apply to me?**

Table 15 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you.

**§ 63.5930 Who implements and enforces this subpart?**

(a) This subpart can be administered by us, the EPA, or a delegated authority such as your State, local, or tribal agency. If the EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency has the authority to administer and enforce this subpart. You should contact your EPA Regional Office to find out if this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are not delegated.

(c) The authorities that will not be delegated to State, local, or tribal agencies are listed in paragraphs (c)(1) through (4) of this section:

(1) Approval of alternatives to the organic HAP emissions standards in §63.5805 under §63.6(g).

(2) Approval of major changes to test methods under §63.7(e)(2)(ii) and (f) and as defined in §63.90.

(3) Approval of major changes to monitoring under §63.8(f) and as defined in §63.90.

(4) Approval of major changes to recordkeeping and reporting under §63.10(f) and as defined in §63.90.

**§ 63.5935 What definitions apply to this subpart?**

Terms used in this subpart are defined in the CAA, in 40 CFR 63.2, and in this section as follows:

*Atomized mechanical application* means application of resin or gel coat with spray equipment that separates the liquid into a fine mist. This fine mist may be created by forcing the liquid under high pressure through an elliptical orifice, bombarding a liquid stream with directed air jets, or a combination of these techniques.

*Bulk molding compound (BMC)* means a putty-like molding compound containing resin(s) in a form that is ready to mold. In addition to resins, BMC may contain catalysts, fillers, and reinforcements. Bulk molding compound can be used in compression molding and injection molding operations to manufacture reinforced plastic composites products.

*BMC manufacturing* means a process that involves the preparation of BMC.

*Centrifugal casting* means a process for fabricating cylindrical composites, such as pipes, in which composite materials are positioned inside a rotating hollow mandrel and held in place by centrifugal forces until the part is sufficiently cured to maintain its physical shape.

*Charge* means the amount of SMC or BMC that is placed into a compression or injection mold necessary to complete one mold cycle.

*Cleaning* means removal of composite materials, such as cured and uncured resin from equipment, finished surfaces, floors, hands of employees, or any other surfaces.

*Clear production gel coat* means an unpigmented, quick-setting resin used to improve the surface appearance and/or performance of composites. It can be used to form the surface layer of any composites other than those used for molds in tooling operations.

*Closed molding* means a grouping of processes for fabricating composites in a way that HAP-containing materials are not exposed to the atmosphere except during the material loading stage ( *e.g.,* compression molding, injection molding, and resin transfer molding). Processes where the mold is covered with plastic (or equivalent material) prior to resin application, and the resin is injected into the covered mold are also considered closed molding.

*Composite* means a shaped and cured part produced by using composite materials.

*Composite materials* means the raw materials used to make composites. The raw materials include styrene containing resins. They may also include gel coat, monomer, catalyst, pigment, filler, and reinforcement.

*Compression molding* means a closed molding process for fabricating composites in which composite materials are placed inside matched dies that are used to cure the materials under heat and pressure without exposure to the atmosphere. The addition of mold paste or in-mold coating is considered part of the closed molding process. The composite materials used in this process are generally SMC or BMC.

*Compression/injection molding* means a grouping of processes that involves the use of compression molding and/or injection molding.

*Continuous casting* means a continuous process for fabricating composites in which composite materials are placed on an in-line conveyor belt to produce cast sheets that are cured in an oven.

*Continuous lamination* means a continuous process for fabricating composites in which composite materials are typically sandwiched between plastic films, pulled through compaction rollers, and cured in an oven. This process is generally used to produce flat or corrugated products on an in-line conveyor.

*Continuous lamination/casting* means a grouping of processes that involves the use of continuous lamination and/or continuous casting.

*Controlled emissions* means those organic HAP emissions that are vented from a control device to the atmosphere.

*Corrosion-resistant gel coat* means a gel coat used on a product made with a corrosion-resistant resin that has a corrosion-resistant end-use application.

*Corrosion-resistant end-use applications* means applications where the product is manufactured specifically for an application that requires a level of chemical inertness or resistance to chemical attack above that required for typical reinforced plastic composites products. These applications include, but are not limited to, chemical processing and storage; pulp and paper production; sewer and wastewater treatment; power generation; potable water transfer and storage; food and drug processing; pollution or odor control; metals production and plating; semiconductor manufacturing; petroleum production, refining, and storage; mining; textile production; nuclear materials storage; swimming pools; and cosmetic production, as well as end-use applications that require high strength resins.

*Corrosion-resistant industry standard* includes the following standards: ASME RTP–1 or Sect. X; ASTM D5364, D3299, D4097, D2996, D2997, D3262, D3517, D3754, D3840, D4024, D4160, D4161, D4162, D4184, D3982, or D3839; ANSI/AWWA C950; UL 215, 1316 or 1746, IAPMO PS–199, or written customer requirements for resistance to specified chemical environments.

*Corrosion-resistant product* means a product made with a corrosion-resistant resin and is manufactured to a corrosion-resistant industry standard, or a food contact industry standard, or is manufactured for corrosion-resistant end-use applications involving continuous or temporary chemical exposures.

*Corrosion-resistant resin* means a resin that either:

(1) Displays substantial retention of mechanical properties when undergoing ASTM C–581 coupon testing, where the resin is exposed for 6 months or more to one of the following materials: Material with a pH ≥ 12.0 or ≤ 3.0, oxidizing or reducing agents, organic solvents, or fuels or additives as defined in 40 CFR 79.2. In the coupon testing, the exposed resin needs to demonstrate a minimum of 50 percent retention of the relevant mechanical property compared to the same resin in unexposed condition. In

addition, the exposed resin needs to demonstrate an increased retention of the relevant mechanical property of at least 20 percentage points when compared to a similarly exposed general-purpose resin. For example, if the general-purpose resin retains 45 percent of the relevant property when tested as specified above, then a corrosion-resistant resin needs to retain at least 65 percent (45 percent plus 20 percent) of its property. The general-purpose resin used in the test needs to have an average molecular weight of greater than 1,000, be formulated with a 1:2 ratio of maleic anhydride to phthalic anhydride and 100 percent diethylene glycol, and a styrene content between 43 to 48 percent; or

(2) Complies with industry standards that require specific exposure testing to corrosive media, such as UL 1316, UL 1746, or ASTM F–1216.

*Doctor box* means the box or trough on an SMC machine into which the liquid resin paste is delivered before it is metered onto the carrier film.

*Filament application* means an open molding process for fabricating composites in which reinforcements are fed through a resin bath and wound onto a rotating mandrel. The materials on the mandrel may be rolled out or worked by using nonmechanical tools prior to curing. Resin application to the reinforcement on the mandrel by means other than the resin bath, such as spray guns, pressure-fed rollers, flow coaters, or brushes is not considered filament application.

*Filled Resin* means that fillers have been added to a resin such that the amount of inert substances is at least 10 percent by weight of the total resin plus filler mixture. Filler putty made from a resin is considered a filled resin.

*Fillers* means inert substances dispersed throughout a resin, such as calcium carbonate, alumina trihydrate, hydrous aluminum silicate, mica, feldspar, wollastonite, silica, and talc. Materials that are not considered to be fillers are glass fibers or any type of reinforcement and microspheres.

*Fire retardant gel coat* means a gel coat used for products for which low-flame spread/low-smoke resin is used.

*Fluid impingement technology* means a spray gun that produces an expanding non-misting curtain of liquid by the impingement of low-pressure uninterrupted liquid streams.

*Food contact industry standard* means a standard related to food contact application contained in Food and Drug Administration's regulations at 21 CFR 177.2420.

*Gel Coat* means a quick-setting resin used to improve surface appearance and/or performance of composites. It can be used to form the surface layer of any composites other than those used for molds in tooling operations.

*Gel coat application* means a process where either clear production, pigmented production, white/off-white or tooling gel coat is applied.

*HAP-containing materials storage* means an ancillary process which involves keeping HAP-containing materials, such as resins, gel coats, catalysts, monomers, and cleaners, in containers or bulk storage tanks for any length of time. Containers may include small tanks, totes, vessels, and buckets.

*High Performance gel coat* means a gel coat used on products for which National Sanitation Foundation, United States Department of Agriculture, ASTM, durability, or other property testing is required.

*High strength gel coat* means a gel coat applied to a product that requires high strength resin.

*High strength resins* means polyester resins which have a casting tensile strength of 10,000 pounds per square inch or more and which are used for manufacturing products that have high strength requirements such as structural members and utility poles.

*Injection molding* means a closed molding process for fabricating composites in which composite materials are injected under pressure into a heated mold cavity that represents the exact shape of the product. The composite materials are cured in the heated mold cavity.

*Low Flame Spread/Low Smoke Products* means products that meet the following requirements. The products must meet both the applicable flame spread requirements and the applicable smoke requirements. Interior or exterior building application products must meet an ASTM E–84 Flame Spread Index of less than or equal to 25, and Smoke Developed Index of less than or equal to 450, or pass National Fire Protection Association 286 Room Corner Burn Test with no flash over and total smoke released not exceeding 1000 meters square. Mass transit application products must meet an ASTM E–162 Flame Spread Index of less than or equal to 35 and ASTM E662 Smoke Density Ds @ 1.5 minutes less than or equal to 100 and Ds @ 4 minutes less than to equal to 200. Duct application products must meet ASTM E084 Flame Spread Index less than or equal to 25 and Smoke Developed Index less than or equal to 50 on the interior and/or exterior of the duct.

*Manual resin application* means an open molding process for fabricating composites in which composite materials are applied to the mold by pouring or by using hands and nonmechanical tools, such as brushes and rollers. Materials are rolled out or worked by using nonmechanical tools prior to curing. The use of pressure-fed rollers and flow coaters to apply resin is not considered manual resin application.

*Mechanical resin application* means an open molding process for fabricating composites in which composite materials (except gel coat) are applied to the mold by using mechanical tools such as spray guns, pressure-fed rollers, and flow coaters. Materials are rolled out or worked by using nonmechanical tools prior to curing.

*Mixing* means the blending or agitation of any HAP-containing materials in vessels that are 5.00 gallons (18.9 liters) or larger, and includes the mixing of putties or polyputties. Mixing may involve the blending of resin, gel coat, filler, reinforcement, pigments, catalysts, monomers, and any other additives.

*Mold* means a cavity or matrix into or onto which the composite materials are placed and from which the product takes its form.

*Neat gel coat* means the resin as purchased for the supplier, but not including any inert fillers.

*Neat gel coat plus* means neat gel coat plus any organic HAP-containing materials that are added to the gel coat by the supplier or the facility, excluding catalysts and promoters. Neat gel coat plus does include any additions of styrene or methyl methacrylate monomer in any form, including in catalysts and promoters.

*Neat resin* means the resin as purchased from the supplier, but not including any inert fillers.

*Neat resin plus* means neat resin plus any organic HAP-containing materials that are added to the resin by the supplier or the facility. Neat resin plus does not include any added filler, reinforcements, catalysts, or promoters. Neat resin plus does include any additions of styrene or methyl methacrylate monomer in any form, including in catalysts and promoters.

*Nonatomized mechanical application* means the use of application tools other than brushes to apply resin and gel coat where the application tool has documentation provided by its manufacturer or user that this design of the application tool has been organic HAP emissions tested, and the test results showed that

use of this application tool results in organic HAP emissions that are no greater than the organic HAP emissions predicted by the applicable nonatomized application equation(s) in Table 1 to this subpart. In addition, the device must be operated according to the manufacturer's directions, including instructions to prevent the operation of the device at excessive spray pressures. Examples of nonatomized application include flow coaters, pressure fed rollers, and fluid impingement spray guns.

*Noncorrosion-resistant resin* means any resin other than a corrosion-resistant resin or a tooling resin.

*Noncorrosion-resistant product* means any product other than a corrosion-resistant product or a mold.

*Non-routine manufacture* means that you manufacture parts to replace worn or damaged parts of a reinforced plastic composites product, or a product containing reinforced plastic composite parts, that was originally manufactured in another facility. For a part to qualify as non-routine manufacture, it must be used for repair or replacement, and the manufacturing schedule must be based on the current or anticipated repair needs of the reinforced plastic composites product, or a product containing reinforced plastic composite parts.

*Operation* means a specific process typically found at a reinforced plastic composites facility. Examples of operations are noncorrosion-resistant manual resin application, corrosion-resistant mechanical resin application, pigmented gel coat application, mixing and HAP-containing materials storage.

*Operation group* means a grouping of individual operations based primarily on mold type. Examples are open molding, closed molding, and centrifugal casting.

*Open molding* means a process for fabricating composites in a way that HAP-containing materials are exposed to the atmosphere. Open molding includes processes such as manual resin application, mechanical resin application, filament application, and gel coat application. Open molding also includes application of resins and gel coats to parts that have been removed from the open mold.

*Pigmented gel coat* means a gel coat that has a color, but does not contain 10 percent of more titanium dioxide by weight. It can be used to form the surface layer of any composites other than those used for molds in tooling operations.

*Polymer casting* means a process for fabricating composites in which composite materials are ejected from a casting machine or poured into an open, partially open, or closed mold and cured. After the composite materials are poured into the mold, they are not rolled out or worked while the mold is open, except for smoothing the material and/or vibrating the mold to remove bubbles. The composite materials may or may not include reinforcements. Products produced by the polymer casting process include cultured marble products and polymer concrete.

*Preform Injection* means a form of pultrusion where liquid resin is injected to saturate reinforcements in an enclosed system containing one or more chambers with openings only large enough to admit reinforcements. Resin, which drips out of the chamber(s) during the process, is collected in closed piping or covered troughs and then into a covered reservoir for recycle. Resin storage vessels, reservoirs, transfer systems, and collection systems are covered or shielded from the ambient air. Preform injection differs from direct die injection in that the injection chambers are not directly attached to the die.

*Prepreg materials* means reinforcing fabric received precoated with resin which is usually cured through the addition of heat.

*Pultrusion* means a continuous process for manufacturing composites that have a uniform cross-sectional shape. The process consists of pulling a fiber-reinforcing material through a resin impregnation chamber

or bath and through a shaping die, where the resin is subsequently cured. There are several types of pultrusion equipment, such as open bath, resin injection, and direct die injection equipment.

*Repair* means application of resin or gel coat to a part to correct a defect, where the resin or gel coat application occurs after the part has gone through all the steps of its typical production process, or the application occurs outside the normal production area. For purposes of this subpart, rerouting a part back through the normal production line, or part of the normal production line, is not considered repair.

*Resin transfer molding* means a process for manufacturing composites whereby catalyzed resin is transferred or injected into a closed mold in which fiberglass reinforcement has been placed.

*Sheet molding compound (SMC)* means a ready-to-mold putty-like molding compound that contains resin(s) processed into sheet form. The molding compound is sandwiched between a top and a bottom film. In addition to resin(s), it may also contain catalysts, fillers, chemical thickeners, mold release agents, reinforcements, and other ingredients. Sheet molding compound can be used in compression molding to manufacture reinforced plastic composites products.

*Shrinkage controlled resin* means a resin that when promoted, catalyzed, and filled according to the resin manufacturer's recommendations demonstrates less than 0.3 percent linear shrinkage when tested according to ASTM D2566.

*SMC manufacturing* means a process which involves the preparation of SMC.

*Tooling gel coat* means a gel coat that is used to form the surface layer of molds. Tooling gel coats generally have high heat distortion temperatures, low shrinkage, high barcol hardness, and high dimensional stability.

*Tooling resin* means a resin that is used to produce molds. Tooling resins generally have high heat distortion temperatures, low shrinkage, high barcol hardness, and high dimensional stability.

*Uncontrolled oven organic HAP emissions* means those organic HAP emissions emitted from the oven through closed vent systems to the atmosphere and not to a control device. These organic HAP emissions do not include organic HAP emissions that may escape into the workplace through the opening of panels or doors on the ovens or other similar fugitive organic HAP emissions in the workplace.

*Uncontrolled wet-out area organic HAP emissions* means any or all of the following: Organic HAP emissions from wet-out areas that do not have any capture and control, organic HAP emissions that escape from wet-out area enclosures, and organic HAP emissions from wet-out areas that are captured by an enclosure but are vented to the atmosphere and not to an add-on control device.

*Unfilled* means that there has been no addition of fillers to a resin or that less than 10 percent of fillers by weight of the total resin plus filler mixture has been added.

*Vapor suppressant* means an additive, typically a wax, that migrates to the surface of the resin during curing and forms a barrier to seal in the styrene and reduce styrene emissions.

*Vapor-suppressed resin* means a resin containing a vapor suppressant added for the purpose of reducing styrene emissions during curing.

*White and off-white gel coat* means a gel coat that contains 10 percent of more titanium dioxide by weight.

[68 FR 19402, Apr. 21, 2003, as amended at 70 FR 50129, Aug. 25, 2005]

# Table 1 to Subpart WWWW of Part 63—Equations To Calculate Organic HAP Emissions Factors for Specific Open Molding and Centrifugal Casting Process Streams

**Table 1 to Subpart WWWW of Part 63--Equations to Calculate Organic HAP Emissions Factors for Specific Open Molding and Centrifugal Casting Process Streams**[1]

As specified in §63.5810, use the equations in the following table to calculate organic HAP emissions factors for specific open molding and centrifugal casting process streams:

| If your operation type is a new or existing... | And you use... | With... | Use this organic HAP Emissions Factor (EF) Equation for materials with less than 33 percent organic HAP (19 percent organic HAP for nonatomized gel coat)[2,3,4] ... | Use this organic HAP emissions Factor (EF) Equation for materials with 33 percent or more organic HAP (19 percent for nonatomized gel coat)[2,3,4] ... |
|---|---|---|---|---|
| 1. open molding operation | a. manual resin application | i. nonvapor-suppressed resin | EF = 0.126 x %HAP x 2000 | EF = ((0.286 x %HAP)-0.0529) x 2000 |
| | | ii. vapor-suppressed resin | EF = 0.126 x %HAP x 2000 x (1-(0.5 x VSE factor)) | EF = [(0.286 x %HAP)-0.0529] x 2000 x (1-(0.5 x VSE factor)) |
| | | iii. vacuum bagging/closed-mold curing with roll out | EF = 0.126 x %HAP x 2000 x 0.8 | EF = [(0.286 x %HAP)-0.0529] x 2000 x 0.8 |
| | | iv. vacuum bagging/closed-mold curing without roll-out | EF = (0.126 x %HAP x 2000 x 0.5 | EF = [(0.286 x %HAP)-0.0529) x 2000 x 0.5 |
| | b. atomized mechanical resin application | i. nonvapor-suppressed resin | EF = 0.169 x %HAP x 2000 | EF = ((0.714 x %HAP)-0.18) x 2000 |
| | | ii. vapor-suppressed resin | EF = 0.169 x %HAP x 2000 x (1-(0.45 x VSE factor)) | EF = ((0.714 x %HAP)-0.18) x 2000 x (1-(0.45 x VSE factor)) |
| | | iii. vacuum bagging/closed-mold curing with roll-out | EF = 0.169 x %HAP x 2000 x 0.85 | EF = ((0.714 x %HAP)-0.18) x 2000 x 0.85 |
| | | iv. vacuum bagging/closed-mold curing without roll-out | EF = 0.169 x %HAP x 2000 x 0.55 | EF = ((0.714 x %HAP)-0.18) x 2000 x 0.55 |
| | c. nonatomized mechanical resin application | i. nonvapor-suppressed resin | EF = 0.107 x %HAP x 2000 | EF = ((0.157 x %HAP)-0.0165) x 2000 |
| | | ii. vapor-suppressed resin | EF = 0.107 x %HAP x 2000 x (1-(0.45 x VSE factor)) | EF = ((0.157 x %HAP)-0.0165) x 2000 x (1-(0.45 x VSE factor)) |
| | | iii. closed-mold curing with roll-out | EF = 0.107 x %HAP x 2000 x 0.85 | EF = ((0.157 x %HAP)-0.0165) x 2000 x 0.85 |
| | | iv. vacuum bagging/closed-mold curing without roll-out | EF = 0.107 x %HAP x 2000 x 0.55 | EF = ((0.157 x %HAP)-0.0165) x 2000 x 0.55 |
| | d. atomized mechanical resin application with robotic or automated spray control[5] | nonvapor-suppressed resin | EF = 0.169 x %HAP x 2000 x 0.77 | EF = 0.77 x ((0.714 x %HAP)-0.18) x 2000 |
| | e. filament application[6] | i. nonvapor-suppressed resin | EF = 0.184 x %HAP x 2000 | EF = ((0.2746 x %HAP)-0.0298) x 2000 |
| | | ii. vapor-suppressed resin | EF = 0.12 x %HAP x 2000 | EF = [(0.2746 x %HAP)-0.0298] x 2000 x 0.65 |
| | f. atomized spray gel coat application | nonvapor-suppressed gel coat | EF = 0.445 x %HAP x 2000 | EF = ((1.03646 x %HAP)-0.195) x 2000 |

| | | | | |
|---|---|---|---|---|
| | g. nonatomized spray gel coat application | nonvapor-suppressed gel coat | EF = 0.185 x %HAP x 2000 | EF = ((0.4506 x %HAP)-0.0505) x 2000 |
| | h. atomized spray gel coat application using robotic or automated spray | nonvapor-suppressed gel coat | EF = 0.445 x %HAP x 2000 x 0.73 | EF = ((1.03646 x %HAP)-0.195) x 2000 x 0.73 |
| 2. centrifugal casting operations [7,8] | a. heated air blown through molds | nonvapor-suppressed resin | EF = 0.558 x (%HAP) x 2000 | EF = 0.558 x (%HAP) x 2000 |
| | b. vented molds, but air vented through the molds is not heated | nonvapor-suppressed resin | EF = 0.026 x (%HAP) x 2000 | EF = 0.026 x (%HAP) x 2000 |

**Footnotes to Table 1**

[1] The equations in this table are intended for use in calculating emission factors to demonstrate compliance with the emission limits in subpart WWWW. These equations may not be the most appropriate method to calculate emission estimates for other purposes. However, this does not preclude a facilit from using the equations in this table to calculate emission factors for purposes other then rule compliance if these equations are the most accurate available.

[2] To obtain the organic HAP emissions factor value for an operation with an add-on control device multiply the EF above by the add-on control factor calculated using Equation 1 of §63.5810. The organic HAP emissions factors have units of lbs of organic HAP per ton of resin or gel coat applied.

[3] Percent HAP means total weight percent of organic HAP (styrene, methyl methacrylate, and any other organic HAP) in the resin or gel coat prior to the addition of fillers, catalyst, and promoters. Input the percent HAP as a decimal, i.e., 33 percent HAP should be input as 0.33, not 33.

[4] The VSE factor means the percent reduction in organic HAP emissions expressed as a decimal measured by the VSE test method of appendix A to this subpart.

[5] This equation is based on a organic HAP emissions factor equation developed for mechanical atomized controlled spray. It may only be used for automated or robotic spray systems with atomized spray. All spray operations using hand held spray guns must use the appropriate mechanical atomized or mechanical nonatomized organic HAP emissions factor equation. Automated or robotic spray systems using nonatomized spray should use the appropriate nonatomized mechanical resin application equation.

[6] Applies only to filament application using an open resin bath. If resin is applied manually or with a spray gun, use the appropriate manual or mechanical application organic HAP emissions factor equation.

[7] These equations are for centrifugal casting operations where the mold is vented during spinning. Centrifugal casting operations where the mold is completely sealed after resin injection are considered to be closed molding operations.

[8] If a centrifugal casting operation uses mechanical or manual resin application techniques to apply resin to an open centrifugal casting mold, use the appropriate open molding equation with covered cure and no rollout to determine an emission factor for operations prior to the closing of the centrifugal casting mold. If the closed centrifugal casting mold is vented during spinning, use the appropriate centrifugal casting equation to calculate an emission factor for the portion of the process where spinning and cure occur. If a centrifugal casting operation uses mechanical or manual resin application techniques to apply resin to an open centrifugal casting mold, and the mold is then closed and is not vented, treat the entire operation as open molding with covered cure and no rollout to determine emission factors.

**Table 2 to Subpart WWWW of Part 63—Compliance Dates for New and Existing Reinforced Plastic Composites Facilities**

As required in §§63.5800 and 63.5840 you must demonstrate compliance with the standards by the dates in the following table:

| If your facility is . . . | And . . . | Then you must comply by this date . . . |
|---|---|---|
| 1. An existing source | a. Is a major source on or before the publication date of this subpart | i. April 21, 2006, or<br>ii. You must accept and meet an enforceable HAP emissions limit below the major source threshold prior to April 21, 2006. |
| 2. An existing source that is an area source | Becomes a major source after the publication date of this subpart | 3 years after becoming a major source or April 21, 2006, whichever is later. |
| 3. An existing source, and emits less than 100 tpy of organic HAP from the combination of all centrifugal casting and continuous lamination/casting operations at the time of initial compliance with this subpart | Subsequently increases its actual organic HAP emissions to 100 tpy or more from these operations, which requires that the facility must now comply with the standards in §63.5805(b) | 3 years of the date your semi-annual compliance report indicates your facility meets or exceeds the 100 tpy threshold. |
| 4. A new source | Is a major source at startup | Upon startup or April 21, 2003, whichever is later. |
| 5. A new source | Is an area source at startup and becomes a major source | Immediately upon becoming a major source. |
| 6. A new source, and emits less than 100 tpy of organic HAP from the combination of all open molding, centrifugal casting, continuous lamination/casting, pultrusion, SMC and BMC manufacturing, and mixing operations at the time of initial compliance with this subpart | Subsequently increases its actual organic HAP emissions to 100 tpy or more from the combination of these operations, which requires that the facility must now meet the standards in §63.5805(d) | 3 years from the date that your semi-annual compliance report indicates your facility meets or exceeds the 100 tpy threshold. |

**Table 3 to Subpart WWWW of Part 63—Organic HAP Emissions Limits for Existing Open Molding Sources, New Open Molding Sources Emitting Less Than 100 TPY of HAP, and New and Existing Centrifugal Casting and Continuous Lamination/Casting Sources that Emit Less Than 100 TPY of HAP**

As specified in §63.5805, you must meet the following organic HAP emissions limits that apply to you:

| If your operation type is . . . | And you use . . . | [1]Your organic HAP emissions limit is . . . |
|---|---|---|
| 1. open molding—corrosion-resistant and/or high strength (CR/HS) | a. mechanical resin application<br>b. filament application<br>c. manual resin application | 113 lb/ton.<br>171 lb/ton.<br>123 lb/ton. |
| 2. open molding—non-CR/HS | a. mechanical resin application<br>b. filament application<br>c. manual resin application | 88 lb/ton.<br>188 lb/ton.<br>87 lb/ton. |
| 3. open molding—tooling | a. mechanical resin application<br>b. manual resin application | 254 lb/ton.<br>157 lb/ton. |
| 4. open molding—low-flame spread/low-smoke products | a. mechanical resin application<br>b. filament application<br>c. manual resin application | 497 lb/ton.<br>270 lb/ton.<br>238 lb/ton. |
| 5. open molding—shrinkage controlled resins[2] | a. mechanical resin application<br>b. filament application<br>c. manual resin application | 354 lb/ton.<br>215 lb/ton.<br>180 lb/ton. |
| 6. open molding—gel coat[3] | a. tooling gel coating<br>b. white/off white pigmented gel coating<br>c. all other pigmented gel coating<br>d. CR/HS or high performance gel coat<br>e. fire retardant gel coat<br>f. clear production gel coat | 440 lb/ton.<br>267 lb/ton.<br>377 lb/ton.<br>605 lb/ton.<br>854 lb/ton.<br>522 lb/ton. |

| If your operation type is . . . | And you use . . . | [1]Your organic HAP emissions limit is . . . |
|---|---|---|
| 7. centrifugal casting—CR/HS | a. resin application with the mold closed, and the mold is vented during spinning and cure<br>b. resin application with the mold closed, and the mold is not vented during spinning and cure<br>c. resin application with the mold open, and the mold is vented during spinning and cure<br>d. resin application with the mold open, and the mold is not vented during spinning and cure | 25 lb/ton.[4]<br>NA—this is considered to be a closed molding operation.<br>25 lb/ton.[4]<br>Use the appropriate open molding emission limit.[5] |
| 8. centrifugal casting—non-CR/HS | a. resin application with the mold closed, and the mold is vented during spinning and cure<br>b. resin application with the mold closed, and mold is not vented during the spinning and cure<br>c. resin application with the mold open, and the mold is vented during spinning and cure<br>d. resin application with the mold open, and the mold is not vented during spinning and cure | 20 lb/ton.[4]<br>NA—this is considered to be a closed molding operation.<br>20 lb/ton.[4]<br>Use the appropriate open molding emission limit.[5] |
| 9. pultrusion[6] | N/A | reduce total organic HAP emissions by at least 60 weight percent. |
| 10. continuous lamination/casting | N/A | reduce total organic HAP emissions by at least 58.5 weight percent or not exceed an organic HAP emissions limit of 15.7 lbs of organic HAP per ton of neat resin plus and neat gel coat plus. |

[1]Organic HAP emissions limits for open molding and centrifugal casting are expressed as lb/ton. You must be at or below these values based on a 12-month rolling average.

[2]This emission limit applies regardless of whether the shrinkage controlled resin is used as a production resin or a tooling resin.

[3]If you only apply gel coat with manual application, for compliance purposes treat the gel coat as if it were applied using atomized spray guns to determine both emission limits and emission factors. If you use multiple application methods and any portion of a specific gel coat is applied using nonatomized spray,

you may use the nonatomized spray gel coat equation to calculate an emission factor for the manually applied portion of that gel coat. Otherwise, use the atomized spray gel coat application equation to calculate emission factors.

[4]For compliance purposes, calculate your emission factor using only the appropriate centrifugal casting equation in item 2 of Table 1 to this subpart, or a site specific emission factor for after the mold is closed as discussed in §63.5796.

[5]Calculate your emission factor using the appropriate open molding covered cure emission factor in item 1 of Table 1 to this subpart, or a site specific emission factor as discussed in §63.5796.

[6]Pultrusion machines that produce parts that meet the following criteria: 1,000 or more reinforcements or the glass equivalent of 1,000 ends of 113 yield roving or more; and have a cross sectional area of 60 square inches or more are not subject to this requirement. Their requirement is the work practice of air flow management which is described in Table 4 to this subpart.

[70 FR 50131, Aug. 25, 2005]

**Table 4 to Subpart WWWW of Part 63—Work Practice Standards**

As specified in §63.5805, you must meet the work practice standards in the following table that apply to you:

| For ... | You must ... |
|---|---|
| 1. a new or existing closed molding operation using compression/injection molding | uncover, unwrap or expose only one charge per mold cycle per compression/injection molding machine. For machines with multiple molds, one charge means sufficient material to fill all molds for one cycle. For machines with robotic loaders, no more than one charge may be exposed prior to the loader. For machines fed by hoppers, sufficient material may be uncovered to fill the hopper. Hoppers must be closed when not adding materials. Materials may be uncovered to feed to slitting machines. Materials must be recovered after slitting. |
| 2. a new or existing cleaning operation | not use cleaning solvents that contain HAP, except that styrene may be used as a cleaner in closed systems, and organic HAP containing cleaners may be used to clean cured resin from application equipment. Application equipment includes any equipment that directly contacts resin. |
| 3. a new or existing materials HAP-containing materials storage operation | keep containers that store HAP-containing materials closed or covered except during the addition or removal of materials. Bulk HAP-containing materials storage tanks may be vented as necessary for safety. |
| 4. an existing or new SMC manufacturing operation | close or cover the resin delivery system to the doctor box on each SMC manufacturing machine. The doctor box itself may be open. |
| 5. an existing or new SMC manufacturing operation | use a nylon containing film to enclose SMC. |

| For ... | You must ... |
|---|---|
| 6. all mixing or BMC manufacturing operations[1] | use mixer covers with no visible gaps present in the mixer covers, except that gaps of up to 1 inch are permissible around mixer shafts and any required instrumentation. |
| 7. all mixing or BMC manufacturing operations[1] | close any mixer vents when actual mixing is occurring, except that venting is allowed during addition of materials, or as necessary prior to adding materials or opening the cover for safety. Vents routed to a 95 percent efficient control device are exempt from this requirement. |
| 8. all mixing or BMC manufacturing operations[1] | keep the mixer covers closed while actual mixing is occurring except when adding materials or changing covers to the mixing vessels. |
| 9. a new or existing pultrusion operation manufacturing parts that meet the following criteria: 1,000 or more reinforcements or the glass equivalent of 1,000 ends of 113 yield roving or more; and have a cross sectional area of 60 square inches or more that is not subject to the 95 percent organic HAP emission reduction requirement | i. not allow vents from the building ventilation system, or local or portable fans to blow directly on or across the wet-out area(s),<br>ii. not permit point suction of ambient air in the wet-out area(s) unless that air is directed to a control device,<br>iii. use devices such as deflectors, baffles, and curtains when practical to reduce air flow velocity across the wet-out area(s),<br>iv. direct any compressed air exhausts away from resin and wet-out area(s), |
| | v. convey resin collected from drip-off pans or other devices to reservoirs, tanks, or sumps via covered troughs, pipes, or other covered conveyance that shields the resin from the ambient air,<br>vi. cover all reservoirs, tanks, sumps, or HAP-containing materials storage vessels except when they are being charged or filled, and<br>vii. cover or shield from ambient air resin delivery systems to the wet-out area(s) from reservoirs, tanks, or sumps where practical. |

[1]Containers of 5 gallons or less may be open when active mixing is taking place, or during periods when they are in process (i.e., they are actively being used to apply resin). For polymer casting mixing operations, containers with a surface area of 500 square inches or less may be open while active mixing is taking place.

[70 FR 50133, Aug. 25, 2005]

**Alternative Organic HAP Emissions Limits for Open Molding, Centrifugal Casting, and SMC Manufacturing Operations Where the Standards Are Based on a 95 Percent Reduction Requirement**

As specified in §63.5805, as an alternative to the 95 percent organic HAP emissions reductions requirement, you may meet the appropriate organic HAP emissions limits in the following table:

| If your operation type is . . . | And you use . . . | LYour organic HAP emissions limit is a[1]. . . |
|---|---|---|
| 1. Open molding—corrosion-resistant and/or high strength (CR/HS) | a. Mechanical resin application | 6 lb/ton. |
| | b. Filament application | 9 lb/ton. |
| | c. Manual resin application | 7 lb/ton. |
| 2. Open molding—non-CR/HS | a. mechanical resin application | 13 lb/ton. |
| | b. Filament application | 10 lb/ton. |
| | c. Manual resin application | 5 lb/ton. |
| 3. Open molding—tooling | a. Mechanical resin application | 13 lb/ton. |
| | b. Manual resin application | 8 lb/ton. |
| 4. Open molding—low flame spread/low smoke products | a. Mechanical resin application | 25 lb/ton. |
| | b. Filament application | 14 lb/ton. |
| | c. Manual resin application | 12 lb/ton. |
| 5. Open molding—shrinkage controlled resins | a. Mechanical resin application | 18 lb/ton. |
| | b. Filament application | 11 lb/ton. |
| | c. Manual resin application | 9 lb/ton. |
| 6. Open molding—gel coat[2] | a. Tooling gel coating | 22 lb/ton. |
| | b. White/off white pigmented gel coating | 22 lb/ton. |
| | c. All other pigmented gel coating | 19 lb/ton. |
| | d. CR/HS or high performance gel coat | 31 lb/ton. |
| | e. Fire retardant gel coat | 43 lb/ton. |
| | f. Clear production gel coat | 27 lb/ton. |
| 7. Centrifugal casting—CR/HS[3,4] | A vent system that moves heated air through the mold | 27 lb/ton. |
| 8. Centrifugal casting—non-CR/HS[3,4] | A vent system that moves heated air through the mold | 21 lb/ton. |
| 7. Centrifugal casting—CR/HS[3,4] | A vent system that moves ambient air through the mold | 2 lb/ton. |
| 8. Centrifugal casting—non-CR/HS[3,4] | A vent system that moves ambient air through the mold | 1 lb/ton. |
| 9. SMC Manufacturing | N/A | 2.4 lb/ton. |

[1]Organic HAP emissions limits for open molding and centrifugal casting expressed as lb/ton are calculated using the equations shown in Table 1 to this subpart. You must be at or below these values based on a 12-month rolling average.

[2]These limits are for spray application of gel coat. Manual gel coat application must be included as part of spray gel coat application for compliance purposes using the same organic HAP emissions factor equation and organic HAP emissions limit. If you only apply gel coat with manual application, treat the manually applied gel coat as if it were applied with atomized spray for compliance determinations.

[3]Centrifugal casting operations where the mold is not vented during spinning and cure are considered to be closed molding and are not subject to any emissions limit. Centrifugal casting operations where the mold is not vented during spinning and cure, and the resin is applied to the open centrifugal casting mold using mechanical or manual open molding resin application techniques are considered to be open molding operations and the appropriate open molding emission limits apply.

[4]Centrifugal casting operations where the mold is vented during spinning and the resin is applied to the open centrifugal casting mold using mechanical or manual open molding resin application techniques, use the appropriate centrifugal casting emission limit to determine compliance. Calculate your emission factor using the appropriate centrifugal casting emission factor in Table 1 to this subpart, or a site specific emission factor as discussed in §63.5796.

[68 FR 19402, Apr. 21, 2003, as amended at 70 FR 50133, Aug. 25, 2005]

**Table 6 to Subpart WWWW of Part 63—Basic Requirements for Performance Tests, Performance Evaluations, and Design Evaluations for New and Existing Sources Using Add-On Control Devices**

As required in §63.5850 you must conduct performance tests, performance evaluations, and design evaluation according to the requirements in the following table:

| For . . . | You must . . . | Using . . . | According to the following requirements . . . |
|---|---|---|---|
| 1. Each enclosure used to collect and route organic HAP emissions to an add-on control device that is a PTE | Meet the requirements for a PTE | EPA method 204 of appendix M of 40 CFR part 51 | Enclosures that meet the requirements of EPA Method 204 of appendix M of 40 CFR part 51 for a PTE are assumed to have a capture efficiency of 100%. Note that the criteria that all access doors and windows that are not treated as natural draft openings shall be closed during routine operation of the process is not intended to require that these doors and windows be closed at all times. It means that doors and windows must be closed any time that you are not actually moving parts or equipment through them. Also, any styrene retained in hollow parts and liberated outside the PTE is not considered to be a violation of the EPA Method 204 criteria. |

| For . . . | You must . . . | Using . . . | According to the following requirements . . . |
|---|---|---|---|
| 2. Each enclosure used to collect and route organic HAP emissions to an add-on control device that is not a PTE | a. Determine the capture efficiency of each enclosure used to capture organic HAP emissions sent to an add-on control device | i. EPA methods 204B through E of appendix M of 40 CFR part 51, or | (1) Enclosures that do not meet the requirements for a PTE must determine the capture efficiency by constructing a temporary total enclosure according to the requirements of EPA Method 204 of appendix M of 40 CFR part 51 and measuring the mass flow rates of the organic HAP in the exhaust streams going to the atmosphere and to the control device. Test runs for EPA Methods 204B through E of appendix M of 40 CFR part 51 must be at least 3 hours. |
| | | ii. An alternative test method that meets the requirements in 40 CFR part 51, appendix M | (1) The alternative test method must the data quality objectives and lower confidence limit approaches for alternative capture efficiency protocols requirements contained in 40 CFR part 63 subpart KK, appendix A. |
| 3. Each control device used to comply with a percent reduction requirement, or an organic HAP emissions limit | Determine the control efficiency of each control device used to control organic HAP emissions | The test methods specified in §63.5850 to this subpart | Testing and evaluation requirements are contained in 40 CFR part 63, subpart SS, and §63.5850 to this subpart. |
| 4. Determining organic HAP emission factors for any operation | Determine the mass organic HAP emissions rate | The test methods specified in §63.5850 to this subpart | Testing and evaluation requirements are contained in 40 CFR part 63, subpart SS, and §63.5850 to this subpart. |

**Table 7 to Subpart WWWW of Part 63—Options Allowing Use of the Same Resin Across Different Operations That Use the Same Resin Type**

As specified in §63.5810(d), when electing to use the same resin(s) for multiple resin application methods, you may use any resin(s) with an organic HAP content less than or equal to the values shown in the following table, or any combination of resins whose weighted average organic HAP content based on a 12-month rolling average is less than or equal to the values shown the following table:

| If your facility has the following resin type and application method . . . | The highest resin weight is* * * percent organic HAP content, or weighted average weight percent organic HAP content, you can use for . . . | is . . . |
|---|---|---|
| 1. CR/HS resins, centrifugal casting[1,2] | a. CR/HS mechanical | [3]48.0 |
| | b. CR/HS filament application | 48.0 |
| | c. CR/HS manual | 48.0 |

| If your facility has the following resin type and application method . . . | The highest resin weight is* * * percent organic HAP content, or weighted average weight percent organic HAP content, you can use for . . . | is . . . |
|---|---|---|
| 2. CR/HS resins, nonatomized mechanical | a. CR/HS filament application | 46.4 |
| | b. CR/HS manual | 46.4 |
| 3. CR/HS resins, filament application | CR/HS manual | 42.0 |
| 4. non-CR/HS resins, filament application | a. non-CR/HS mechanical | [3]45.0 |
| | b. non-CR/HS manual | 45.0 |
| | c. non-CR/HS centrifugal casting[1,2] | 45.0 |
| 5. non-CR/HS resins, nonatomized mechanical | a. non-CR/HS manual | 38.5 |
| | b. non-CR/HS centrifugal casting[1,2] | 38.5 |
| 6. non-CR/HS resins, centrifugal casting[1,2] | non-CR/HS manual | 37.5 |
| 7. tooling resins, nonatomized mechanical | tooling manual | 91.4 |
| 8. tooling resins, manual | tooling atomized mechanical | 45.9 |

[1]If the centrifugal casting operation blows heated air through the molds, then 95 percent capture and control must be used if the facility wishes to use this compliance option.

[2]If the centrifugal casting molds are not vented, the facility may treat the centrifugal casting operations as if they were vented if they wish to use this compliance option.

[3]Nonatomized mechanical application must be used.

[70 FR 50133, Aug. 25, 2005]

**Table 8 to Subpart WWWW of Part 63—Initial Compliance With Organic HAP Emissions Limits**

As specified in §63.5860(a), you must demonstrate initial compliance with organic HAP emissions limits as specified in the following table:

| For . . . | That must meet the following organic HAP emissions limit . . . | You have demonstrated initial compliance if . . . |
|---|---|---|

| For . . . | That must meet the following organic HAP emissions limit . . . | You have demonstrated initial compliance if . . . |
|---|---|---|
| 1. open molding and centrifugal casting operations | a. an organic HAP emissions limit shown in Tables 3 or 5 to this subpart, or an organic HAP content limit shown in Table 7 to this subpart | i. you have met the appropriate organic HAP emissions limits for these operations as calculated using the procedures in §63.5810 on a 12-month rolling average 1 year after the appropriate compliance date, and/or<br>ii. you demonstrate that any individual resins or gel coats not included in (i) above, as applied, meet their applicable emission limits, or<br>iii. you demonstrate using the appropriate values in Table 7 to this subpart that the weighted average of all resins and gel coats for each resin type and application method meet the appropriate organic HAP contents. |
| 2. open molding centrifugal casting, continuous lamination/casting, SMC and BMC manufacturing, and mixing operations | a. reduce total organic HAP emissions by at least 95 percent by weight | total organic HAP emissions, based on the results of the capture efficiency and destruction efficiency testing specified in Table 6 to this subpart, are reduced by at least 95 percent by weight. |
| 3. continuous lamination/casting operations | a. reduce total organic HAP emissions, by at least 58.5 weight percent, or | total organic HAP emissions, based on the results of the capture efficiency and destruction efficiency in Table 6 to this subpart and the calculation procedures specified in §§63.5865 through 63.5890, are reduced by at least 58.5 percent by weight. |
| | b. not exceed an organic HAP emissions limit of 15.7 lbs of organic HAP per ton of neat resin plus and neat gel coat plus | total organic HAP emissions, based on the results of the capture efficiency and destruction efficiency testing specified in Table 6 to this subpart and the calculation procedures specified in §§63.5865 through 63.5890, do not exceed 15.7 lbs of organic HAP per ton of neat resin plus and neat gel coat plus. |
| 4. continuous lamination/casting operations | a. reduce total organic HAP emissions by at least 95 weight percent or | total organic HAP emissions, based on the results of the capture efficiency and destruction efficiency testing specified in Table 6 to this subpart and the calculation procedures specified in §§63.5865 through 63.5890, are reduced by at least 95 percent by weight |
| | b. not exceed an organic HAP emissions limit of 1.47 lbs of organic HAP per ton of neat resin plus and neat gel coat plus | total organic HAP emissions, based on the results of the capture efficiency and destruction efficiency testing specified in Table 6 and the calculation procedures specified in §§63.5865 through 63.5890, do not exceed 1.47 lbs of organic HAP of per ton of neat resin plus and neat gel coat plus. |

| For . . . | That must meet the following organic HAP emissions limit . . . | You have demonstrated initial compliance if . . . |
|---|---|---|
| 5. pultrusion operations | a. reduce total organic HAP emissions by at least 60 percent by weight | i. total organic HAP emissions, based on the results of the capture efficiency and add-on control device destruction efficiency testing specified in Table 6 to this subpart, are reduced by at least 60 percent by weight, and/or<br>ii. as part of the notification of initial compliance status, the owner/operator submits a certified statement that all pultrusion lines not controlled with an add-on control device, but for which an emission reduction is being claimed, are using direct die injection, and/or wet-area enclosures that meet the criteria of §63.5830. |
| 6. pultrusion operations | a. reduce total organic HAP emissions by at least 95 percent by weight | i. total organic HAP emissions, based on the results of the capture efficiency and add-on control device destruction efficiency testing specified in Table 6 to this subpart, are reduced by at least 95 percent by weight. |

[70 FR 50134, Aug. 25, 2005]

**Table 9 to Subpart WWWW of Part 63—Initial Compliance With Work Practice Standards**

As specified in §63.5860(a), you must demonstrate initial compliance with work practice standards as specified in the following table:

| For . . . | That must meet the following standards . . . | You have demonstrated initial compliance if . . . |
|---|---|---|
| 1. a new or existing closed molding operation using compression/injection molding | uncover, unwrap or expose only one charge per mold cycle per compression/injection molding machine. For machines with multiple molds, one charge means sufficient material to fill all molds for one cycle. For machines with robotic loaders, no more than one charge may be exposed prior to the loader. For machines fed by hoppers, sufficient material may be uncovered to fill the hopper. Hoppers must be closed when not adding materials. Materials may be uncovered to feed to slitting machines. Materials must be recovered after slitting | the owner or operator submits a certified statement in the notice of compliance status that only one charge is uncovered, unwrapped, or exposed per mold cycle per compression/injection molding machine, or prior to the loader, hoppers are closed except when adding materials, and materials are recovered after slitting. |

| For . . . | That must meet the following standards . . . | You have demonstrated initial compliance if . . . |
|---|---|---|
| 2. a new or existing cleaning operation | not use cleaning solvents that contain HAP, except that styrene may be used in closed systems, and organic HAP containing materials may be used to clean cured resin from application equipment. Application equipment includes any equipment that directly contacts resin between storage and applying resin to the mold or reinforcement | the owner or operator submits a certified statement in the notice of compliance status that all cleaning materials, except styrene contained in closed systems, or materials used to clean cured resin from application equipment, contain no HAP. |
| 3. a new or existing materials HAP-containing materials storage operation | keep containers that store HAP-containing materials closed or covered except during the addition or removal of materials. Bulk HAP-containing materials storage tanks may be vented as necessary for safety | the owner or operator submits a certified statement in the notice of compliance status that all HAP-containing storage containers are kept closed or covered except when adding or removing materials, and that any bulk storage tanks are vented only as necessary for safety. |
| 4. an existing or new SMC manufacturing operation | close or cover the resin delivery system to the doctor box on each SMC manufacturing machine. The doctor box itself may be open | the owner or operator submits a certified statement in the notice of compliance status that the resin delivery system is closed or covered. |
| 5. an existing or new SMC manufacturing operation | use a nylon containing film to enclose SMC | the owner or operator submits a certified statement in the notice of compliance status that a nylon-containing film is used to enclose SMC. |
| 6. an existing or new mixing or BMC manufacturing operation | use mixer covers with no visible gaps present in the mixer covers, except that gaps of up to 1 inch are permissible around mixer shafts and any required instrumentation | the owner or operator submits a certified statement in the notice of compliance status that mixer covers are closed during mixing except when adding materials to the mixers, and that gaps around mixer shafts and required instrumentation are less than 1 inch. |
| 7. an existing mixing or BMC manufacturing operation | not actively vent mixers to the atmosphere while the mixing agitator is turning, except that venting is allowed during addition of materials, or as necessary prior to adding materials for safety | the owner or operator submits a certified statement in the notice of compliance status that mixers are not actively vented to the atmosphere when the agitator is turning except when adding materials or as necessary for safety. |

| For . . . | That must meet the following standards . . . | You have demonstrated initial compliance if . . . |
|---|---|---|
| 8. a new or existing mixing or BMC manufacturing operation | keep the mixer covers closed during mixing except when adding materials to the mixing vessels | the owner or operator submits a certified statement in the notice of compliance status that mixers closed except when adding materials to the mixing vessels. |
| 9. a new or existing pultrusion operation manufacturing parts that meet the following criteria: 1,000 or more reinforcements or the glass equivalent of 1,000 ends of 113 yield roving or more; and have a cross sectional area of 60 square inches or more that is not subject to the 95 percent organic HAP emission reduction requirement | i. Not allow vents from the building ventilation system, or local or portable fans to blow directly on or across the wet-out area(s),<br>ii. not permit point suction of ambient air in the wet-out area(s) unless that air is directed to a control device,<br>iii. use devices such as deflectors, baffles, and curtains when practical to reduce air flow velocity across the wet-out area(s),<br>iv. direct any compressed air exhausts away from resin and wet-out area(s),<br>v. convey resin collected from drip-off pans or other devices to reservoirs, tanks, or sumps via covered troughs, pipes, or other covered conveyance that shields the resin from the ambient air,<br>vi. clover all reservoirs, tanks, sumps, or HAP-containing materials storage vessels except when they are being charged or filled, and<br>vii. cover or shield from ambient air resin delivery systems to the wet-out area(s) from reservoirs, tanks, or sumps where practical. | the owner or operator submits a certified statement in the notice of compliance status that they have complied with all the requirements listed in 9.i through 9.vii. |

[70 FR 50135, Aug. 25, 2005]

**Table 10 to Subpart WWWW of Part 63—Data Requirements for New and Existing Continuous Lamination Lines and Continuous Casting Lines Complying With a Percent Reduction Limit on a Per Line Basis**

As required in §63.5865(a), in order to comply with a percent reduction limit for continuous lamination lines and continuous casting lines you must determine the data in the following table:

| For each line where the wet-out area . . . | And the oven . . . | You must determine . . . |
|---|---|---|

| For each line where the wet-out area . . . | And the oven . . . | You must determine . . . |
|---|---|---|
| 1. Has an enclosure that is not a permanent total enclosure (PTE) and the captured organic HAP emissions are controlled by an add-on control device | a. Is uncontrolled | i. Annual uncontrolled wet-out area organic HAP emissions,<br>ii. Annual controlled wet-out area organic HAP emissions,<br>iii. Annual uncontrolled oven organic HAP emissions,<br>iv. The capture efficiency of the wet-out area enclosure, |
| | | v. The destruction efficiency of the add-on control device, and<br>vi. The amount of neat resin plus and neat gel coat plus applied. |
| 2. Has an enclosure that is a PTE and the captured organic HAP emissions are controlled by an add-on control device | a. Is uncontrolled | i. Annual uncontrolled wet-out area organic HAP emissions,<br>ii. Annual controlled wet-out area organic HAP emissions,<br>iii. Annual uncontrolled oven organic HAP emissions,<br>iv. That the wet-out area enclosure meets the requirements of EPA Method 204 of appendix M to 40 CFR part 51 for a PTE,<br>v. The destruction efficiency of the add-on control device, and<br>vi. The amount of neat resin plus and neat gel coat plus applied. |
| 3. Is uncontrolled | a. Is controlled by an add-on control device | i. Annual uncontrolled wet-out area organic HAP emissions,<br>ii. Annual uncontrolled oven organic HAP emissions,<br>iii. Annual controlled oven organic HAP emissions,<br>iv. The capture efficiency of the oven,<br>v. the destruction efficiency of the add-on control device, and<br>vi. the amount of neat resin plus and neat gel coat plus applied. |

| For each line where the wet-out area . . . | And the oven . . . | You must determine . . . |
|---|---|---|
| 4. Has an enclosure that is not a PTE and the captured organic HAP emissions are controlled by an add-on control device | a. Is controlled by an add-on control device | i. Annual uncontrolled wet-out area organic HAP emissions,<br>ii. Annual controlled wet-out area organic HAP emissions,<br>iii. Annual uncontrolled oven organic HAP emissions,<br>iv. Annual controlled oven organic HAP emissions;<br>v. The capture efficiency of the wet-out area enclosure,<br>vi. Inlet organic HAP emissions to the add-on control device,<br>vii. Outlet organic HAP emissions from the add-on control device, and<br>viii. The amount of neat resin plus and neat gel coat plus applied. |
| 5. Has an enclosure that is a PTE and the captured organic HAP emissions are controlled by an add-on control device | a. Is controlled by an add-on control device | i. That the wet-out area enclosure meets the requirements of EPA Method 204 of appendix M to 40 CFR part 51 for a PTE,<br>ii. The capture efficiency of the oven, and |
| | | iii. The destruction efficiency of the add-on control device. |

**Table 11 to Subpart WWWW of Part 63—Data Requirements for New and Existing Continuous Lamination and Continuous Casting Lines Complying With a Percent Reduction Limit or a Lbs/Ton Limit on an Averaging Basis**

As required in §63.5865, in order to comply with a percent reduction limit or a lbs/ton limit on an averaging basis for continuous lamination lines and continuous casting lines you must determine the data in the following table:

| For each . . . | That . . . | You must determine . . . |
|---|---|---|
| 1. Wet-out area | Is uncontrolled | Annual uncontrolled wet-out area organic HAP emissions. |
| 2. Wet-out area | a. Has an enclosure that is not a PTE | i. The capture efficiency of the enclosure, and<br>ii. Annual organic HAP emissions that escape the enclosure. |
| 3. Wet-out area | Has an enclosure that is a PTE | That the enclosure meets the requirements of EPA Method 204 of appendix M to 40 CFR part 51 for a PTE. |
| 4. Oven | Is uncontrolled | Annual uncontrolled oven organic HAP emissions. |
| 5. Line | a. Is controlled or uncontrolled | i. The amount of neat resin plus applied, and<br>ii. The amount of neat gel coat plus applied. |
| 6. Add-on control device | | i. Total annual inlet organic HAP emissions, and total annual outlet organic HAP emissions. |

**Table 12 to Subpart WWWW of Part 63—Data Requirements for New and Existing Continuous Lamination Lines and Continuous Casting Lines Complying With a Lbs/Ton Organic HAP Emissions Limit on a Per Line Basis**

As required in §63.5865(b), in order to comply with a lbs/ton organic HAP emissions limit for continuous lamination lines and continuous casting lines you must determine the data in the following table:

| For each line where the wet- out area . . . | And the oven . . . | You must determine . . . |
|---|---|---|
| 1. Is uncontrolled | a. Is uncontrolled | i. Annual uncontrolled wet-out area organic HAP emissions,<br>ii. Annual uncontrolled oven organic HAP emissions, and<br>iii. Annual neat resin plus and neat gel coat plus applied. |
| 2. Has an enclosure that is not a PTE and the captured organic HAP emissions are controlled by an add-on control device | a. Is uncontrolled | i. Annual uncontrolled wet-out area organic HAP emissions,<br>ii. Annual controlled wet-out area organic HAP emissions,<br>iii. Annual uncontrolled oven organic HAP emissions, |
| | | iv. The capture efficiency of the wet-out area enclosure,<br>v. The destruction efficiency of the add-on control device, and<br>vi. The amount of neat resin plus and neat gel coat plus applied. |
| 3. Has an enclosure that is a PTE, and the captured organic HAP emissions are controlled by an add-on control device | a. Is uncontrolled | i. Annual uncontrolled wet-out area organic HAP emissions,<br>ii. Annual controlled wet-out area organic HAP emissions,<br>iii. Annual uncontrolled oven organic HAP emissions, |
| | | iv. That the wet-out area enclosure meets the requirements of EPA Method 204 of appendix M to 40 CFR part 51 for a PTE,<br>v. The destruction efficiency of the add-on control device, and<br>vi. The amount of neat resin plus and neat gel coat plus applied. |
| 4. Is uncontrolled | a. Is controlled by an add-on control device | i. Annual uncontrolled wet-out area organic HAP emissions,<br>ii. Annual uncontrolled oven organic HAP emissions,<br>iii. Annual controlled oven organic HAP emissions, |

| For each line where the wet- out area . . . | And the oven . . . | You must determine . . . |
|---|---|---|
| | | iv. The capture efficiency of the oven,<br>v. The destruction efficiency of the add-on control device, and<br>vi. The amount of neat resin plus and neat gel coat plus applied. |
| 5. Has an enclosure that is not a PTE and the captured organic HAP emissions are controlled by an add-on control device | a. Is controlled by an add-on control device | i. Annual uncontrolled wet-out area organic HAP emissions,<br>ii. Annual controlled wet-out area organic HAP emissions,<br>iii. Annual uncontrolled oven organic HAP emissions, |
| | | iv. Annual controlled oven organic HAP emissions,<br>v. The capture efficiency of the wet-out area enclosure,<br>vi. The capture efficiency of the oven, |
| | | vii. The destruction efficiency of the add-on control device, and<br>viii. The amount of neat resin plus and neat gel coat plus applied. |
| 6. Has an enclosure that is a PTE, and the captured organic HAP emissions are controlled by add-on control device | a. Is controlled by an add-on control device | i. That the wet-out area enclosure meets the requirements of EPA Method 204 of appendix M to 40 CFR part 51 for a PTE,<br>ii. The capture efficiency of the oven,<br>iii. Inlet organic HAP emissions to the an add-on control device, and |
| | | iv. Outlet organic HAP emissions from the add-on control device. |

**Table 13 to Subpart WWWW of Part 63—Applicability and Timing of Notifications**

As required in §63.5905(a), you must determine the applicable notifications and submit them by the dates shown in the following table:

| If your facility . . . | You must submit . . . | By this date . . . |
|---|---|---|
| 1. Is an existing source subject to this subpart | An Initial Notification containing the information specified in §63.9(b)(2) | No later than the dates specified in §63.9(b)(2). |
| 2. Is a new source subject to this subpart | The notifications specified in §63.9(b)(4) and (5) | No later than the dates specified §63.9(b)(4) and (5). |
| 3. Qualifies for a compliance extension as specified in §63.9(c) | A request for a compliance extension as specified in §63.9(c) | No later than the dates specified in §63.6(i). |

| If your facility . . . | You must submit . . . | By this date . . . |
|---|---|---|
| 4. Is complying with organic HAP emissions limit averaging provisions | A Notification of Compliance Status as specified in §63.9(h) | No later than 1 year plus 30 days after your facility's compliance date. |
| 5. Is complying with organic HAP content limits, application equipment requirements, or organic HAP emissions limit other than organic HAP emissions limit averaging | A Notification of Compliance Status as specified in §63.9(h) | No later than 30 calendar days after your facility's compliance date. |
| 6. Is complying by using an add-on control device | a. A notification of intent to conduct a performance test as specified in §63.9(e) | No later than the date specified in §63.9(e). |
| | b. A notification of the date for the CMS performance evaluation as specified in §63.9(g) | The date of submission of notification of intent to conduct a performance test. |
| | c. A Notification of Compliance Status as specified in §63.9(h) | No later than 60 calendar days after the completion of the add-on control device performance test and CMS performance evaluation. |

**Table 14 to Subpart WWWW of Part 63—Requirements for Reports**

As required in §63.5910(a), (b), (g), and (h), you must submit reports on the schedule shown in the following table:

| You must submit a(n) | The report must contain . . . | You must submit the report . . . |
|---|---|---|
| 1. Compliance report | a. A statement that there were no deviations during that reporting period if there were no deviations from any emission limitations (emission limit, operating limit, opacity limit, and visible emission limit) that apply to you and there were no deviations from the requirements for work practice standards in Table 4 to this subpart that apply to you. If there were no periods during which the CMS, including CEMS, and operating parameter monitoring systems, was out of control as specified in §63.8(c)(7), the report must also contain a statement that there were no periods during which the CMS was out of control during the reporting period | Semiannually according to the requirements in §63.5910(b). |

| You must submit a(n) | The report must contain . . . | You must submit the report . . . |
|---|---|---|
| | b. The information in §63.5910(d) if you have a deviation from any emission limitation (emission limit, operating limit, or work practice standard) during the reporting period. If there were periods during which the CMS, including CEMS, and operating parameter monitoring systems, was out of control, as specified in §63.8(c)(7), the report must contain the information in §63.5910(e) | Semiannually according to the requirements in §63.5910(b). |
| | c. The information in §63.10(d)(5)(i) if you had a startup, shutdown or malfunction during the reporting period, and you took actions consistent with your startup, shutdown, and malfunction plan | Semiannually according to the requirements in §63.5910(b). |
| 2. An immediate startup, shutdown, and malfunction report if you had a startup, shutdown, or malfunction during the reporting period that is not consistent with your startup, shutdown, and malfunction plan | a. Actions taken for the event | By fax or telephone within 2 working days after starting actions inconsistent with the plan. |
| | b. The information in §63.10(d)(5)(ii) | By letter within 7 working days after the end of the event unless you have made alternative arrangements with the permitting authority. (§63.10(d)(5)(ii)). |

**Table 15 to Subpart WWWW of Part 63—Applicability of General Provisions (Subpart A) to Subpart WWWW of Part 63**

As specified in §63.5925, the parts of the General Provisions which apply to you are shown in the following table:

| The general provisions reference . . . | That addresses . . . | And applies to subpart WWWW of part 63 . . . | Subject to the following additional information . . . |
|---|---|---|---|
| §63.1(a)(1) | General applicability of the general provisions | Yes | Additional terms defined in subpart WWWW of Part 63, when overlap between subparts A and WWWW of Part 63 of this part, subpart WWWW of Part 63 takes precedence. |
| §63.1(a)(2) through (4) | General applicability of the general provisions | Yes | |

| The general provisions reference . . . | That addresses . . . | And applies to subpart WWWW of part 63 . . . | Subject to the following additional information . . . |
|---|---|---|---|
| §63.1(a)(5) | Reserved | No | |
| §63.1(a)(6) | General applicability of the general provisions | Yes | |
| §63.1(a)(7) through (9) | Reserved | No | |
| §63.1(a)(10) through (14) | General applicability of the general provisions | Yes | |
| §63.1(b)(1) | Initial applicability determination | Yes | Subpart WWWW of Part 63 clarifies the applicability in §§63.5780 and 63.5785. |
| §63.1(b)(2) | Reserved | No. | |
| §63.1(b)(3) | Record of the applicability determination | Yes | |
| §63.1(c)(1) | Applicability of this part after a relevant standard has been set under this part | Yes | Subpart WWWW of Part 63 clarifies the applicability of each paragraph of subpart A to sources subject to subpart WWWW of Part 63. |
| §63.1(c)(2) | Title V operating permit requirement | Yes | All major affected sources are required to obtain a title V operating permit. Area sources are not subject to subpart WWWW of Part 63. |
| §63.1(c)(3) and (4) | Reserved | No | |
| §63.1(c)(5) | Notification requirements for an area source that increases HAP emissions to major source levels | Yes | |
| §63.1(d) | Reserved | No | |
| §63.1(e) | Applicability of permit program before a relevant standard has been set under this part | Yes | |
| §63.2 | Definitions | Yes | Subpart WWWW of Part 63 defines terms in §63.5935. When overlap between subparts A and WWWW of Part 63 occurs, you must comply with the subpart WWWW of Part 63 definitions, which take precedence over the subpart A definitions. |

| The general provisions reference . . . | That addresses . . . | And applies to subpart WWWW of part 63 . . . | Subject to the following additional information . . . |
|---|---|---|---|
| §63.3 | Units and abbreviations | Yes | Other units and abbreviations used in subpart WWWW of Part 63 are defined in subpart WWWW of Part 63. |
| §63.4 | Prohibited activities and circumvention | Yes | §63.4(a)(3) through (5) is reserved and does not apply. |
| §63.5(a)(1) and (2) | Applicability of construction and reconstruction | Yes | Existing facilities do not become reconstructed under subpart WWWW of Part 63. |
| §63.5(b)(1) | Relevant standards for new sources upon construction | Yes | Existing facilities do not become reconstructed under subpart WWWW of Part 63. |
| §63.5(b)(2) | Reserved | No | |
| §63.5(b)(3) | New construction/reconstruction | Yes | Existing facilities do not become reconstructed under subpart WWWW of Part 63. |
| §63.5(b)(4) | Construction/reconstruction notification | Yes | Existing facilities do not become reconstructed under subpart WWWW of Part 63. |
| §63.5(b)(5) | Reserved | No | |
| §63.5(b)(6) | Equipment addition or process change | Yes | Existing facilities do not become reconstructed under subpart WWWW of Part 63. |
| §63.5(c) | Reserved | No | |
| §63.5(d)(1) | General application for approval of construction or reconstruction | Yes | Existing facilities do not become reconstructed under subpart WWWW of Part 63. |
| §63.5(d)(2) | Application for approval of construction | Yes | |
| §63.5(d)(3) | Application for approval of reconstruction | No | |
| §63.5(d)(4) | Additional information | Yes | |
| §63.5(e)(1) through (5) | Approval of construction or reconstruction | Yes | |
| §63.5(f)(1) and (2) | Approval of construction or reconstruction based on prior State preconstruction review | Yes | |

| The general provisions reference . . . | That addresses . . . | And applies to subpart WWWW of part 63 . . . | Subject to the following additional information . . . |
|---|---|---|---|
| §63.6(a)(1) | Applicability of compliance with standards and maintenance requirements | Yes | |
| §63.6(a)(2) | Applicability of area sources that increase HAP emissions to become major sources | Yes | |
| §63.6(b)(1) through (5) | Compliance dates for new and reconstructed sources | Yes | Subpart WWWW of Part 63 clarifies compliance dates in §63.5800. |
| §63.6(b)(6) | Reserved | No | |
| §63.6(b)(7) | Compliance dates for new operations or equipment that cause an area source to become a major source | Yes | New operations at an existing facility are not subject to new source standards. |
| §63.6(c)(1) and (2) | Compliance dates for existing sources | Yes | Subpart WWWW of Part 63 clarifies compliance dates in §63.5800. |
| §63.6(c)(3) and (4) | Reserved | No | |
| §63.6(c)(5) | Compliance dates for existing area sources that become major | Yes | Subpart WWWW of Part 63 clarifies compliance dates in §63.5800. |
| §63.6(d) | Reserved | No | |
| §63.6(e)(1) and (2) | Operation & maintenance requirements | Yes | |
| §63.6(e)(3) | Startup, shutdown, and malfunction plan and recordkeeping | Yes | Subpart WWWW of Part 63 requires a startup, shutdown, and malfunction plan only for sources using add-on controls. |
| §63.6(f)(1) | Compliance except during periods of startup, shutdown, and malfunction | No | Subpart WWWW of Part 63 requires compliance during periods of startup, shutdown, and malfunction, except startup, shutdown, and malfunctions for sources using add-on controls. |
| §63.6(f)(2) and (3) | Methods for determining compliance | Yes | |
| §63.6(g)(1) through (3) | Alternative standard | Yes | |

| The general provisions reference . . . | That addresses . . . | And applies to subpart WWWW of part 63 . . . | Subject to the following additional information . . . |
|---|---|---|---|
| §63.6(h) | Opacity and visible emission Standards | No | Subpart WWWW of Part 63 does not contain opacity or visible emission standards. |
| §63.6(i)(1) through (14) | Compliance extensions | Yes | |
| §63.6(i)(15) | Reserved | No | |
| §63.6(i)(16) | Compliance extensions | Yes | |
| §63.6(j) | Presidential compliance exemption | Yes | |
| §63.7(a)(1) | Applicability of performance testing requirements | Yes | |
| §63.7(a)(2) | Performance test dates | No | Subpart WWWW of Part 63 initial compliance requirements are in §63.5840. |
| §63.7(a)(3) | CAA Section 114 authority | Yes | |
| §63.7(b)(1) | Notification of performance test | Yes | |
| §63.7(b)(2) | Notification rescheduled performance test | Yes | |
| §63.7(c) | Quality assurance program, including test plan | Yes | Except that the test plan must be submitted with the notification of the performance test. |
| §63.7(d) | Performance testing facilities | Yes | |
| §63.7(e) | Conditions for conducting performance tests | Yes | Performance test requirements are contained in §63.5850. Additional requirements for conducting performance tests for continuous lamination/casting are included in §63.5870. |
| §63.7(f) | Use of alternative test method | Yes | |
| §63.7(g) | Performance test data analysis, recordkeeping, and reporting | Yes | |
| §63.7(h) | Waiver of performance tests | Yes | |
| §63.8(a)(1) and (2) | Applicability of monitoring requirements | Yes | |
| §63.8(a)(3) | Reserved | No | |
| §63.8(a)(4) | Monitoring requirements when using flares | Yes | |

| The general provisions reference . . . | That addresses . . . | And applies to subpart WWWW of part 63 . . . | Subject to the following additional information . . . |
|---|---|---|---|
| §63.8(b)(1) | Conduct of monitoring exceptions | Yes | |
| §63.8(b)(2) and (3) | Multiple effluents and multiple monitoring systems | Yes | |
| §63.8(c)(1) | Compliance with CMS operation and maintenance requirements | Yes | This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit. |
| §63.8(c)(2) and (3) | Monitoring system installation | Yes | This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit. |
| §63.8(c)(4) | CMS requirements | Yes | This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit. |
| §63.8(c)(5) | Continuous Opacity Monitoring System (COMS) minimum procedures | No | Subpart WWWW of Part 63 does not contain opacity standards. |
| §63.8(c)(6) through (8) | CMS calibration and periods CMS is out of control | Yes | This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit. |
| §63.8(d) | CMS quality control program, including test plan and all previous versions | Yes | This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit. |
| §63.8(e)(1) | Performance evaluation of CMS | Yes | This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit. |
| §63.8(e)(2) | Notification of performance evaluation | Yes | This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit. |
| §63.8(e)(3) and (4) | CMS requirements/alternatives | Yes | This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit. |
| §63.8(e)(5)(i) | Reporting performance evaluation results | Yes | This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit. |

| The general provisions reference . . . | That addresses . . . | And applies to subpart WWWW of part 63 . . . | Subject to the following additional information . . . |
|---|---|---|---|
| §63.8(e)(5)(ii) | Results of COMS performance evaluation | No | Subpart WWWW of Part 63 does not contain opacity standards. |
| §63.8(f)(1) through (3) | Use of an alternative monitoring method | Yes | |
| §63.8(f)(4) | Request to use an alternative monitoring method | Yes | |
| §63.8(f)(5) | Approval of request to use an alternative monitoring method | Yes | |
| §63.8(f)(6) | Request for alternative to relative accuracy test and associated records | Yes | This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit. |
| §63.8(g)(1) through (5) | Data reduction | Yes | |
| §63.9(a)(1) through (4) | Notification requirements and general information | Yes | |
| §63.9(b)(1) | Initial notification applicability | Yes | |
| §63.9(b)(2) | Notification for affected source with initial startup before effective date of standard | Yes | |
| §63.9(b)(3) | Reserved | No | |
| §63.9(b)(4)(i) | Notification for a new or reconstructed major affected source with initial startup after effective date for which an application for approval of construction or reconstruction is required | Yes | |
| §63.9(b)(4)(ii) through (iv) | Reserved | No | |
| §63.9(b)(4)(v) | Notification for a new or reconstructed major affected source with initial startup after effective date for which an application for approval of construction or reconstruction is required | Yes | Existing facilities do not become reconstructed under subpart WWWW of Part 63. |
| §63.9(b)(5) | Notification that you are subject to this subpart for new or reconstructed affected source with initial startup after effective date and for which an application for approval of construction or reconstruction is not required | Yes | Existing facilities do not become reconstructed under subpart WWWW of Part 63. |

| The general provisions reference . . . | That addresses . . . | And applies to subpart WWWW of part 63 . . . | Subject to the following additional information . . . |
|---|---|---|---|
| §63.9(c) | Request for compliance extension | Yes | |
| §63.9(d) | Notification of special compliance requirements for new source | Yes | |
| §63.9(e) | Notification of performance test | Yes | |
| §63.9(f) | Notification of opacity and visible emissions observations | No | Subpart WWWW of Part 63 does not contain opacity or visible emission standards. |
| §63.9(g)(1) | Additional notification requirements for sources using CMS | Yes | This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit. |
| §63.9(g)(2) | Notification of compliance with opacity emission standard | No | Subpart WWWW of Part 63 does not contain opacity emission standards. |
| §63.9(g)(3) | Notification that criterion to continue use of alternative to relative accuracy testing has been exceeded | Yes | This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit. |
| §63.9(h)(1) through (3) | Notification of compliance status | Yes | |
| §63.9(h)(4) | Reserved | No | |
| §63.9(h)(5) and (6) | Notification of compliance status | Yes | |
| §63.9(i) | Adjustment of submittal deadlines | Yes | |
| §63.9(j) | Change in information provided | Yes | |
| §63.10(a) | Applicability of recordkeeping and reporting | Yes | |
| §63.10(b)(1) | Records retention | Yes | |
| §63.10(b)(2)(i) through (v) | Records related to startup, shutdown, and malfunction | Yes | Only applies to facilities that use an add-on control device. |
| §63.10(b)(2)(vi) through (xi) | CMS records, data on performance tests, CMS performance evaluations, measurements necessary to determine conditions of performance tests, and performance evaluations | Yes | |
| §63.10(b)(2)(xii) | Record of waiver of recordkeeping and reporting | Yes | |

| The general provisions reference . . . | That addresses . . . | And applies to subpart WWWW of part 63 . . . | Subject to the following additional information . . . |
|---|---|---|---|
| §63.10(b)(2)(xiii) | Record for alternative to the relative accuracy test | Yes | |
| §63.10(b)(2)(xiv) | Records supporting initial notification and notification of compliance status | Yes | |
| §63.10(b)(3) | Records for applicability determinations | Yes | |
| §63.10(c)(1) | CMS records | Yes | This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit. |
| §63.10(c)(2) through (4) | Reserved | No | |
| §63.10(c)(5) through (8) | CMS records | Yes | This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit. |
| §63.10(c)(9) | Reserved | No | |
| §63.10(c)(10) through (15) | CMS records | Yes | This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit. |
| §63.10(d)(1) | General reporting requirements | Yes | |
| §63.10(d)(2) | Report of performance test results | Yes | |
| §63.10(d)(3) | Reporting results of opacity or visible emission observations | No | Subpart WWWW of Part 63 does not contain opacity or visible emission standards. |
| §63.10(d)(4) | Progress reports as part of extension of compliance | Yes | |
| §63.10(d)(5) | Startup, shutdown, and malfunction reports | Yes | Only applies if you use an add-on control device. |
| §63.10(e)(1) through (3) | Additional reporting requirements for CMS | Yes | This section applies if you have an add-on control device and elect to use a CEM to demonstrate continuous compliance with an emission limit. |
| §63.10(e)(4) | Reporting COMS data | No | Subpart WWWW of Part 63 does not contain opacity standards. |
| §63.10(f) | Waiver for recordkeeping or reporting | Yes | |

| The general provisions reference . . . | That addresses . . . | And applies to subpart WWWW of part 63 . . . | Subject to the following additional information . . . |
|---|---|---|---|
| §63.11 | Control device requirements | Yes | Only applies if you elect to use a flare as a control device. |
| §63.12 | State authority and delegations | Yes | |
| §63.13 | Addresses of State air pollution control agencies and EPA Regional Offices | Yes | |
| §63.14 | Incorporations by reference | Yes | |
| §63.15 | Availability of information and confidentiality | Yes | |

**Appendix A to Subpart WWWW of Part 63—Test Method for Determining Vapor Suppressant Effectiveness**

*1. Scope and Application*

1.1 *Applicability.* If a facility is using vapor suppressants to reduce hazardous air pollutant (HAP) emissions, the organic HAP emission factor equations in Table 1 to this subpart require that the vapor suppressant effectiveness factor be determined. The vapor suppressant effectiveness factor is then used as one of the inputs into the appropriate organic HAP emission factor equation. The vapor suppressant effectiveness factor test is not intended to quantify overall volatile emissions from a resin, nor to be used as a stand-alone test for emissions determination. This test is designed to evaluate the performance of film forming vapor suppressant resin additives. The results of this test are used only in combination with the organic HAP emissions factor equations in Table 1 to this subpart to generate emission factors.

1.1.1 The open molding process consists of application of resin and reinforcements to the mold surface, followed by a manual rollout process to consolidate the laminate, and the curing stage where the laminate surface is not disturbed. Emission studies have shown that approximately 50 percent to 55 percent of the emissions occur while the resin is being applied to the mold. Vapor suppressants have little effect during this portion of the lamination process, but can have a significant effect during the curing stage. Therefore, if a suppressant is 100 percent effective, the overall emissions from the process would be reduced by 45 percent to 50 percent, representing the emissions generated during the curing stage. In actual practice, vapor suppressant effectiveness will be less than 100 percent and the test results determine the specific effectiveness in terms of the vapor suppressant effectiveness factor. This factor represents the effectiveness of a specific combination of suppressant additive and resin formulation.

1.1.2 A resin manufacturer may supply a molder with a vapor-suppressed resin, and employ this test to provide the molder with the vapor suppressant effectiveness factor for that combination of resin and vapor suppressant. The factor qualifies the effectiveness of the vapor suppressant when the resin is tested in the specific formulation supplied to the molder. The addition of fillers or other diluents by the molder may impact the effectiveness of the vapor suppressant. The formulation, including resin/glass ratio and filler content, used in the test should be similar to the formulation to be used in production. The premise of this method is to compare laminate samples made with vapor suppressant additive and made without the additive. The difference in emissions between the two yields the vapor suppressant effectiveness factor.

1.1.3 The method uses a mass balance determination to establish the relative loss of the volatile component from unsaturated polyester or vinyl ester resins, with and without vapor suppressant additives.

The effectiveness of a specific vapor suppressant and resin mixture is determined by comparing the relative volatile weight losses from vapor suppressed and non-suppressed resins. The volatile species are not separately analyzed. While the species contained in the volatile component are not determined, an extended listing of potential monomer that may be contained in unsaturated polyester or vinyl ester resins is provided in Table 1.1. However, most polyester and vinyl ester resin formulations presently used by the composites industry only contain styrene monomer.

**Table 1.1—List of Monomers Potentially Present in Unsaturated Polyester/Vinyl Ester Resins**

| Monomer | CAS No. |
|---|---|
| Styrene | 100–42–5. |
| Vinyl toluene | 25013–15–4. |
| Methyl methacrylate | 80–62–6. |
| Alpha methyl styrene | 98–83–9. |
| Para methyl styrene | Vinyl toluene isomer. |
| Chlorostyrene | 1331–28–8. |
| Diallyl phthalate | 131–17–9. |
| Other volatile monomers | Various. |

*2. Summary of Method*

2.1 Differences in specific resin and suppressant additive chemistry affect the performance of a vapor suppressant. The purpose of this method is to quantify the effectiveness of a specific combination of vapor suppressant and unsaturated polyester or vinyl ester resin as they are to be used in production. This comparative test quantifies the loss of volatiles from a fiberglass reinforced laminate during the roll-out and curing emission phases, for resins formulated with and without a suppressant additive. A criterion for this method is the testing of a non-vapor suppressed resin system and testing the same resin with a vapor suppressant. The two resins are as identical as possible with the exception of the addition of the suppressant to one. The exact formulation used for the test will be determined by the in-use production requirements. Each formulation of resin, glass, fillers, and additives is developed to meet particular customer and or performance specifications.

2.2 The result of this test is used as an input factor in the organic HAP emissions factor equations in Table 1 to this subpart, which allows these equations to predict emissions from a specific combination of resin and suppressant. This test does not provide an emission rate for the entire lamination process.

*3. Definitions and Acronyms*

3.1 Definitions

3.1.1 *Vapor suppressant.* An additive that inhibits the evaporation of volatile components in unsaturated polyester or vinyl ester resins.

3.1.2 *Unsaturated polyester resin.* A thermosetting resin commonly used in composites molding.

3.1.3 *Unsaturated vinyl ester resin.* A thermosetting resin used in composites molding for corrosion resistant and high performance applications.

3.1.4 *Laminate.* A combination of fiber reinforcement and a thermoset resin.

3.1.5 *Chopped strand mat.* Glass fiber reinforcement with random fiber orientation.

3.1.6 *Initiator.* A curing agent added to an unsaturated polyester or vinyl ester resin.

3.1.7 *Resin application roller.* A tool used to saturate and compact a wet laminate.

3.1.8 *Gel time.* The time from the addition of initiator to a resin to the state of resin gelation.

3.1.9 *Filled resin system.* A resin, which includes the addition of inert organic or inorganic materials to modify the resin properties, extend the volume and to lower the cost. Fillers include, but are not limited to; mineral particulates; microspheres; or organic particulates. This test is not intended to be used to determine the vapor suppressant effectiveness of a filler.

3.1.10 *Material safety data sheet.* Data supplied by the manufacturer of a chemical product, listing hazardous chemical components, safety precautions, and required personal protection equipment for a specific product.

3.1.11 *Tare(ed).* Reset a balance to zero after a container or object is placed on the balance; that is to subtract the weight of a container or object from the balance reading so as to weigh only the material placed in the container or on the object.

3.1.12 *Percent glass.* The specified glass fiber weight content in a laminate. It is usually determined by engineering requirements for the laminate.

3.2 Acronyms:

3.2.1 *VS* —vapor suppressed or vapor suppressant.

3.2.2 *NVS* —non-vapor suppressed.

3.2.3 *VSE* —vapor suppressant effectiveness.

3.2.4 *VSE Factor* —vapor suppressant effectiveness, factor used in the equations in Table 1 to this subpart.

3.2.5 *CSM* —chopped strand mat.

3.2.6 *MSDS* —material safety data sheet.

*4. Interferences*

There are no identified interferences which affect the results of this test.

*5. Safety*

Standard laboratory safety procedures should be used when conducting this test. Refer to specific MSDS for handling precautions.

*6. Equipment and Supplies*

Note: Mention of trade names or specific products or suppliers does not constitute an endorsement by the Environmental Protection Agency.

6.1 Required Equipment.

6.1.1 Balance enclosure.[1]

6.1.2 Two (2) laboratory balances—accurate to ±0.01g.[2]

6.1.3 Stop watch or balance data recording output to data logger with accuracy ±1 second.[3]

6.1.4 Thermometer—accurate to ±2.0 °F(±1.0 °C).[4]

6.1.5 A lipped pan large enough to hold the cut glass without coming into contact with the vertical sides, *e.g.* a pizza pan.[5]

6.1.6 Mylar film sufficient to cover the bottom of the pan.[6]

6.1.7 Tape to keep the Mylar from shifting in the bottom of the pan.[7]

6.1.8 Plastic tri-corner beakers of equivalent—250 ml to 400 ml capacity.[8]

6.1.9 Eye dropper or pipette.[9]

6.1.10 Disposable resin application roller,3/16&inch;–3/4&inch; diameter × 3&inch;–6&inch; roller length.[10]

6.1.11 Hygrometer or psychrometer[11] accurate to ±5 percent

6.1.12 Insulating board, (Teflon, cardboard, foam board etc.) to prevent the balance from becoming a heat sink.[12]

6.2 Optional Equipment.

6.2.1 Laboratory balance—accurate to ±.01g with digital output, such as an RS–232 bi-directional interface[13] for use with automatic data recording devices.

6.2.2 Computer with recording software configured to link to balance digital output. Must be programmed to record data at the minimum intervals required for manual data acquisition.

6.3 Supplies.

6.3.1 Chopped strand mat—1.5 oz/ft.[2] [14]

*7. Reagents and Standards*

7.1 *Initiator.* The initiator type, brand, and concentration will be specified by resin manufacturer, or as required by production operation.

7.2 Polyester or vinyl ester resin.

7.3 Vapor suppressant additive.

*8. Sample Collection, Preservation, and Storage*

This test method involves the immediate recording of data during the roll out and curing phases of the lamination process during each test run. Samples are neither collected, preserved, nor stored.

*9. Quality Control*

Careful attention to the prescribed test procedure, routing equipment calibration, and replicate testing are the quality control activities for this test method. Refer to the procedures in section 11. A minimum of six test runs of a resin system without a suppressant and six test runs of the same resin with a suppressant shall be performed for each resin and suppressant test combination.

*10. Calibration and Standardization*

10.1 The laboratory balances, stopwatch, hygrometer and thermometer shall be maintained in a state of calibration prior to testing and thereafter on a scheduled basis as determined by the testing laboratory. This shall be accomplished by using certified calibration standards.

10.2 Calibration records shall be maintained for a period of 3 years.

*11. Test Procedure*

11.1 Test Set-up.

11.1.1 The laboratory balance is located in an enclosure to prevent fluctuations in balance readings due to localized air movement. The front of enclosure is open to permit work activity, but positioned so that local airflow will not effect balance readings. The ambient temperature is determined by suspending the thermometer at a point inside the enclosure.

11.1.2 The bottom of the aluminum pan is covered with the Mylar film. The film is held in position with tape or by friction between the pan and the film.

11.1.3 The resin and pan are brought to room temperature. This test temperature must be between 70 °F and 80 °F. The testing temperature cannot vary more than ±2 °F during the measurement of test runs. Temperature shall be recorded at the same time weight is recorded on suppressed and non-suppressed test data sheets, shown in Table 17.1.

11.1.4 The relative humidity may not change more than ±15 percent during the test runs. This is determined by recording the relative humidity in the vicinity of the test chamber at the beginning and end of an individual test run. This data is recorded on the test data sheets shown in Table 17.1.

11.1.5 Two plies of nominal 1.5 oz/ft$^2$ chopped strand mat (CSM) are cut into a square or rectangle with the minimum surface area of 60 square inches ( *i.e.* a square with a side dimension of 7.75 inches).

11.1.6 The appropriate resin application roller is readily available.

11.2 Resin Gel Time/Initiator Percentage

11.2.1 Previous testing has indicated that resin gel time influences the emissions from composite production. The testing indicated that longer the gel times led to higher emissions. There are a number of

factors that influence gel time including initiator type, initiator brand, initiator level, temperature and resin additives. Under actual usage conditions a molder will adjust the initiator to meet a gel time requirement. In this test procedure, the vapor suppressed and non-vapor suppressed resin systems will be adjusted to the same gel time by selecting the appropriate initiator level for each.

11.2.2 All test runs within a test will be processed in a manner that produces the same resin gel time ±2 minutes. To facilitate the resin mixing procedure, master batches of resin and resin plus vapor suppressant of resin are prepared. These resin master batches will have all of the required ingredients except initiator; this includes filler for filled systems. The gel times for the tests are conducted using the master batch and adjustments to meet gel time requirements shall be made to the master batch before emission testing is conducted. Test temperatures must be maintained within the required range, during gel time testing. Further gel time testing is not required after the non-vapor suppressed and vapor suppressed master batches are established with gel times within ±2 minutes. A sufficient quantity of each resin should be prepared to allow for additional test specimens in the event one or more test fails to meet the data acceptance criteria discussed in Section 11.5 and shown in Table 17.2.

11.2.3 The specific brand of initiator and the nominal percentage level recommended by the resin manufacturer will be indicated on the resin certificate of analysis[15] ; or, if a unique gel time is required in a production laminate, initiator brand and percentage will be determined by that specific requirement.

11.2.4 Examples:

11.2.4.1 The resin for a test run is specified as having a 15-minute cup gel time at 77 °F using Brand X initiator at 1.5 percent by weight. The non-suppressed control resin has a 15-minute gel time. The suppressed resin has a gel time of 17-minutes. An initiator level of 1.5 percent would be selected for the both the non-suppressed and the suppressed test samples.

11.2.4.2 Based on a specific production requirement, a resin is processed in production using 2.25 percent of Brand Y initiator, which produces a 20-minute gel time. This initiator at level of 2.25 percent produces a 20 minute gel time for the non-suppressed control resin, but yields a 25-minute gel time for the suppressed resin sample. The suppressed resin is retested at 2.50 percent initiator and produces a 21-minute gel time. The initiator levels of 2.25 percent and 2.50 percent respectively would yield gel times within ±2 minutes.

11.3 Test Run Procedure for Unfilled Resin (see the data sheet shown in Table 17.1).

11.3.1 The insulating board is placed on the balance.

11.3.2 The aluminum pan with attached Mylar film is placed on the balance, and the balance is tared (weight reading set to zero with the plate on the balance.)

11.3.3 Place two plies of 1.5 oz. CSM on the balance and record the weight (glass weight).

11.3.4 The resin beaker and stirring rod are put on the second balance and tared.

11.3.5 The required resin weight and initiator weight are calculated (refer to calculation formulas in 12.2).

11.3.6 The disposable resin application roller is placed on the edge of the plate.

11.3.7 The balance is tared, with the aluminum pan, Mylar film, glass mat, and resin application roller on the balance pan.

11.3.8 Resin is weighed into a beaker, as calculated, using the second balance. The mixing stick should be tared with the beaker weight.

11.3.9 Initiator is weighed into the resin, as calculated, using an eyedropper or a pipette, and the combination is mixed.

11.3.10 Initiated resin is poured on chopped strand mat in a pe-determined pattern (see Figure 11.6).

11.3.11 A stopwatch is started from zero.

11.3.12 The initial laminate weight is recorded.

11.3.13 The plate is removed from balance to enable roll-out of the laminate.

11.3.14 The wet laminate is rolled with the resin application roller to completely distribute the resin, saturate the chopped strand mat, and eliminate air voids. Roll-out time should be in the range of 2 to 3[16] minutes and vary less than ±10 percent of the average time required for the complete set of six suppressed and six non-suppressed runs.

11.3.15 Record the rollout end time (time from start to completion of rollout).

11.3.16 Place the resin application roller on the edge of the plate when rollout is completed.

11.3.17 Place the plate back on the balance pan. Immediately record the weight.

11.3.18 For the first test in a series of six tests, weight is recorded every 5-minute interval (suppressed and non-suppressed). The end of the test occurs when three consecutive equal weights are recorded or a weight gain is observed (the last weight before the increased weight is the end of test weight). For the remaining five tests in the series, after the initial weights are taken, the next weight is recorded 30 minutes before the end of the test, as suggested by the results from the first test. It is likely that the time to reach the end point of a suppressed resin test will be shorter than the time required to complete a non-suppressed test. Therefore, the time to start taking data manually may be different for suppressed and non-suppressed resins.

11.4 Test Run Procedures for Filled Resin Systems[17] Note that the procedure for filled systems differs from the procedure for unfilled systems. With filled systems, resin is applied to one ply of the CSM and the second ply is placed on top of the resin.

11.4.1 The insulating board is placed on the balance.

11.4.2 The aluminum pan with attached Mylar film is placed on the balance, and the balance is tared (weight reading set to zero with the plate on the balance.)

11.4.3 Place two plies of 1.5 oz. CSM on the balance and record the weight (glass weight).

11.4.4 Remove the top ply of fiberglass and record its weight (weight of 1st layer of glass).

11.4.5 The required resin weight and initiator weight are calculated (refer to calculation formulas in 12.2). Calculate the weight of filled resin and initiator based on the 2 layers of fiberglass.

11.4.6 The resin beaker and stirring rod are put on the second balance and tared.

11.4.7 A disposable resin application roller is placed on the edge of the plate.

11.4.8 The balance is tared, with the aluminum pan, Mylar film, glass mat, and resin application roller on the balance pan.

11.4.9 Resin is weighed into the beaker, as calculated, using the second balance. The mixing stick should be tared with the beaker weight.

11.4.10 Initiator is weighed into the resin, as calculated, using an eyedropper or a pipette, and the combination is mixed.

11.4.11 Initiated resin is poured on the single ply of CSM in a pre-determined pattern. Refer to Figure 11.6.

11.4.12 A stopwatch is started from zero.

11.4.13 Record the weight of the resin ans single ply of CSM ($L_1$). The initial laminate weight equals $L_1$plus the weight of second glass layer.

11.4.14 Replace the second layer of fiberglass.

11.4.15 Remove the plate from the balance to allow roll-out of the laminate.

11.4.16 Roll the wet laminate with the resin application roller to completely distribute the resin, saturate the chopped strand mat, and eliminate air voids. Roll-out time should be in the range of 2 to 3[16] minutes and vary less than ±10 percent of the average time required for the complete set of six suppressed and six non-suppressed runs.

11.4.17 Record the roll-out end time (time from start to completion of rollout).

11.4.18 Place the resin application roller on the edge of the plate when rollout is completed.

11.4.19 Place the plate back on the balance pan. The initial weight is recorded immediately.

11.4.20 For the first test run in a series of six, weight is recorded at every 5-minute interval (suppressed and non-suppressed). The end of the test occurs when three consecutive equal weights are recorded or a weight gain is observed (the last weight before the increased weight is the end of test weight). For the remaining five tests in the series, after the initial weights are taken, the next weight is recorded 30 minutes before the end of the test, as suggested by the results from the first test. It is likely that the time to reach the end point of a suppressed resin test will be shorter than the time required to complete a non-suppressed test. Therefore, the time to start taking data manually may be different for suppressed and non-suppressed resins.

11.5 Data Acceptance Criteria:

11.5.1 A test set is designed as twelve individual test runs using the same resin, initiator, and gel time, six of the test runs use the resin non-vapor suppressed and the other six use it vapor suppressed.

11.5.2 If a test run falls outside any of the time, temperature, weight or humidity variation requirements, it must be discarded and run again.

11.5.3 The laminate roll out time for each individual test run must vary less than ±10 percent of the average time required for the complete set of six suppressed and six non-suppressed runs.

11.5.4 Test temperature for each test run must be maintained within ±2 °F and the average must be between 70° and 80 °F. Refer to 11.1.3.

11.5.5 The difference in the amount of resin for each run must be within ±10 percent of the average weight for the complete set of six suppressed and six non-suppressed runs.

11.5.6 The relative humidity from each test run must be within ±15 percent of the average humidity for the complete set of six suppressed and six non-suppressed tests. Refer to 11.1.4

11.5.7 The glass content for each test set must be within ±10 percent of the average resin-to-/glass ratio for the complete set of six suppressed and six non-suppressed runs. Refer to 12.2).

11.5.8 The filler content for each test of a test set must be within ±5 percent of the average filler content for the complete set of six suppressed and six non-suppressed runs. Refer to 12.2.

11.6 Resin Application Pour Pattern:

11.6.1 To facilitate the distribution of resin across the chopped strand mat, and to provide consistency from test to test, a uniform pour pattern should be used. A typical pour pattern is shown below:

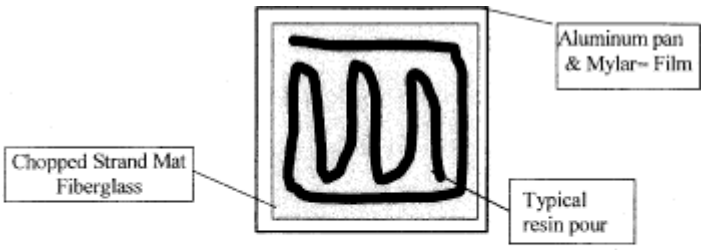



Figure 11.6 Resin Distribution Diagram

11.6.2 The resin is to be evenly distributed across the entire surface of the chopped strand mat using the resin application roller to achieve a wet look across the surface of the laminate. Pushing excess resin off the reinforcement and onto the Mylar sheet should be avoided. No resin is to be pushed more than1/2inch beyond the edge of the glass mat. If excess resin is pushed further from the glass mat, it will void the test run. As part of this process, typical visible air voids are to be eliminated by the rollout process. If the pour pattern is different from the above, it must be recorded and attached to test data sheet 17.1.

*12. Data Analysis and Calculations*

12.1 Data Analysis:

This test method requires a simple mass balance calculation, no special data analysis is necessary.

12.2 Calculations:

12.2.1 The target glass content (percent) for unfilled resin systems is determined from the specific production parameters being evaluated. In absence of any specific production requirements the target may be set at the tester's discretion.

12.2.2 Glass content determination (expressed as a per cent):

% Glass = Glass wt(g)/(Glass wt(g) + Resin weight (g))

12.2.3 Weight of resin required:

Resin weight required = (Glass wt (g)/% glass)—Glass wt (g)

12.2.4 Filled resin formulation determination for filled resin systems ( *e.g.* >30 percent filler by weight for a particulate filler, or >1 percent by weight for a lightweight filler, such as hollow microspheres):

% Resin content = resin

weight(g)/(resin weight(g) + glass

weight(g) + filler weight(g))

% Glass content = glass

weight(g)/(resin weight(g) + glass

weight(g) + filler weight(g))

Filler content = filler

weight(g)/(resin weight(g) + glass

weight(g) + filler weight(g))

12.2.5 Initiator weight determination:

Initiator weight (g) = Resin weight(g) × Initiator %

12.2.6 Emission weight loss determination:

Emissions weight loss (g) = Initial resin weight (g)−Final resin weight (g)

12.2.7 % Emission weight loss:

% Emission Weight Loss = (Emission weight loss (g) Initial resin weight (g) × 100

12.2.8 Average % Emission Weight Loss (assuming six test runs):

$$Average\ \%\ \text{Emission Weight Loss} = \sum_{i}^{N=6} \left(\%\ \text{Emission Weight Loss}_i\right)/6$$

12.2.9 VSE Factor calculation:

VSE Factor = 1 −(Average % VS Emission Weight Loss/Average NVS Emission Weight Loss)

**Table 12.1—Example Calculation**

| Test # | % VS weight loss | % NVS weight loss |
|---|---|---|
| 1 | 6.87 | 10.86 |
| 2 | 6.76 | 11.23 |
| 3 | 5.80 | 12.02 |
| 4 | 5.34 | 11.70 |
| 5 | 6.11 | 11.91 |
| 6 | 6.61 | 10.63 |
| Average Weight Loss | 6.25 | 11.39 |
| VSE Factor | | 0.4 |

VSE Factor = 0.45

VSE Factor is used as input into the appropriate equation in Table 1 to this subpart.

Example from Table 1 to this subpart:

Manual Resin Application, 35 percent HAP resin, VSE Factor of 0.45

HAP Emissions with vapor suppresants = ((0.286 × %HAP)−0.0529) × 2000 × (1–(0.5 × VSE factor))

HAP Emissions with vapor suppresants = ((0.286 × .35)−0.0529) × 2000 × (1−(0.5 × .45))

HAP Emissions with vapor suppresants = 73 pounds of HAP emissions per ton of resin.

*13. Method Performance*

13.1 Bias:

The bias of this test method has not been determined.

13.2 Precision Testing

13.2.1 Subsequent to the initial development of this test protocol by the Composites Fabricators Association, a series of tests were conducted in three different laboratory facilities. The purpose of this round robin testing was to verify the precision of the test method in various laboratories. Each laboratory received a sample of an orthophthalic polyester resin from the same production batch, containing 48 per cent styrene by weight. Each testing site was also provided with the same vapor suppressant additive. The suppressant manufacturer specified the percentage level of suppressant additive. The resin

manufacturer specified the type and level of initiator required to produce a 20 minute gel time. The target glass content was 30 percent by weight.

13.2.2 Each laboratory independently conducted the VSE test according to this method. A summary of the results is included in Table 13.1.

**Table 13.1—Round Robin Testing Results**

| | **Test Lab 1** | | **Test Lab 2** | | **Test Lab 3** | |
|---|---|---|---|---|---|---|
| | **NVS** | **VS** | **NVS** | **S** | **NVS** | **VS** |
| Average percent WT Loss | 4.24 | 1.15 | 4.69 | 1.84 | 5.73 | 1.61 |
| Standard Deviation | 0.095 | 0.060 | 0.002 | 0.002 | 0.020 | 0.003 |
| VSE Factor | | 0.730 | | 0.607 | | 0.720 |

13.3 Comparison to EPA Reference Methods This test has no corresponding EPA reference method.

*14. Pollution Prevention*

The sample size used in this method produces a negligible emission of HAP, and has an insignificant impact upon the atmosphere.

*15. Waste Management*

The spent and waste materials generated during this test are disposed according to required facility procedures, and waste management recommendations on the corresponding material safety data sheets.

*16. References and footnotes*

16.1 Footnotes:

[1] Balance Enclosure—The purpose of the balance enclosure is to prevent localized airflow from adversely affecting the laboratory balance. The enclosure may be a simple three-sided box with a top and an open face. The configuration of the enclosure is secondary to the purpose of providing a stable and steady balance reading, free from the effects of airflow, for accurate measurements. The enclosure can be fabricated locally. A typical enclosure is shown in Figure 17.1.

[2] Laboratory Balance—Ohaus Precision Standard Series P/N TS400D or equivalent—Paul N. Gardner Co. 316 NE 1st St. Pompano Beach, FL 33060 or other suppliers.

[3] Stop Watch—Local supply.

[4] Thermometer—Mercury thermometer—ASTM No. 21C or equivalent; Digital thermometer—P/N TH–33033 or equivalent—Paul N. Gardner Co. 316 NE 1st St. Pompano Beach, FL 33060 or other suppliers.

[5] Aluminum Pan—Local supply.

[6] Mylar—Local supply.

[7] Double Sided Tape—3M Double Stick Tape or equivalent, local supply.

[8] Laboratory Beakers—250 to 400ml capacity—Local laboratory supply.

[9] Eye Dropper or Pipette—Local laboratory supply.

[10] Disposable Resin Application Roller Source—Wire Handle Roller P/N 205–050–300 or Plastic Handle Roller P/N 215–050–300 or equivalent; ES Manufacturing Inc., 2500 26st Ave. North, St. Petersburg, FL 33713, *www.esmfg.com,* or other source. Refer to Figure 17.3.

[11] Hygrometer or Psychrometer—Model# THWD–1, or equivalent—Part # 975765 by Amprobe Instrument, 630 Merrick Road, P.O. Box 329, Lynbrook, NY 11563, 516–593–5600

[12] Insulating Board (Teflon, cardboard, foam board etc.)—Local supply.

[13] Laboratory Balance With Digital Output—Ohaus Precision Standard Series P/N TS120S or equivalent—Paul N. Gardner Co. 316 NE 1st St. Pompano Beach, FL 33060 or other suppliers.

[14] Chopped Strand Mat—1.5 oz/ft$^2$ Sources: Owens Corning Fiberglas—Fiberglas M–723; PPG Industries—ABM HTX; Vetrotex America—M–127 or equivalent.

[15] Certificate of Analysis: Resin gel time, as recorded on the resin certificate of analysis, is measured using a laboratory standard gel time procedure. This procedure typically uses a 100 gram cup sample at 77 °F (25 °C), a specific type of initiator and a specified percentage.

[16] Roll-out times may vary with resin viscosity or resin additive. The important aspect of this step is to produce the same roll-out time for both the suppressed and non-suppressed samples.

[17] While this test can be used with filled resin systems, the test is not designed to determine the effect of the filler on emissions, but rather to measure the effect of the suppressant additive in the resin system. When evaluating a filled system both the non-vapor suppressed and vapor suppressed samples should be formulated with the same type and level of filler.

16.2 References

1. Phase 1—Baseline Study Hand Lay-up, CFA, 1996

2. CFA Vapor Suppressant Effectiveness Test Development, 4/3/98, correspondence with Dr. Madeleine Strum, EPA, OAQPS

3. CFA Vapor Suppressant Effectiveness Screening Tests, 4/4/98

4. Styrene Suppressant Systems Study, Reichhold Chemical, 11/30/98

5. Evaluation of the CFA's New Proposed Vapor Suppressant Effectiveness Test, Technical Service Request #: ED–01–98, BYK Chemie, 6/3/98

6. Second Evaluation of the CFA's New Proposed Vapor Suppressant Effectiveness Test, Technical Service Request #: ED–02–98, BYK Chemie, 1/26/99

*17. Data Sheets and Figures*

17.1 This data sheet, or a similar data sheet, is used to record the test data for filled, unfilled, suppressed and non-suppressed tests. If additional time is required, the data sheet may be extended.

Table 17.1 Test Data Sheet

| Test Number | | | Test Type | | |
|---|---|---|---|---|---|
| | | | VS (_____) | | NVS (____) |
| Resin | | | Filled (____) | | Unfilled (___) |
| Initiator | | | | Initiator, % | _____ |
| Vapor Suppressant | | | | VS, % | _____ |
| Weight of 2 layers of glass, g | _____ | Weight of 1st glass layer, g | _____ | Weight of 2nd glass layer, g | _____ |
| Initial Resin Weight, (g) | | | Time (Min.) | Weight g | Temp °F |
| Glass content, (%) | | | 55 | | |
| Initial Temperature °F: | | | 60 | | |
| Initial Humidity % | | | 65 | | |
| Resin Initiator Level, % | | | 70 | | |
| Resin gel time, (min.) | | | 75 | | |
| Resin filler content, % | | | 80 | | |
| Roll out time, (min.) | | | 85 | | |
| Time, (min.) | Weight, g | Temp, °F | 90 | | |

| | | | | | |
|---|---|---|---|---|---|
| Initial | | | 95 | | |
| | | | 100 | | |
| 0 | | | 105 | | |
| 5 | | | 110 | | |
| 10 | | | 115 | | |
| 15 | | | 120 | | |
| 20 | | | 125 | | |
| 25 | | | 130 | | |
| 30 | | | 135 | | |
| 35 | | | 140 | | |
| 40 | | | 145 | | |
| 45 | | | 150 | | |
| 50 | | | 155 | | |
| | | | | | |
| Final Time, min. | Final Weight, g. | | Final Temp, °F | Final Humidity, % | |
| | | | | | |

17.2 Data Acceptance Criteria Worksheet:

The following worksheet is used to determine the quality of collected data ( *i.e.* insure the data collected all meets acceptance criteria)

**Table 17.2—Data Acceptance Criteria Worksheet**

| Test No. | Temperature | | | Laminate roll out time, min | Relative humidity, % | | Resin weight, (g) | Glass content, % | Resin distribution | Meets criteria Y/N |
|---|---|---|---|---|---|---|---|---|---|---|
| | Min | Max | Delta | | Initial | Final | | | | |
| 1 | | | | | | | | | | |
| 2 | | | | | | | | | | |
| 3 | | | | | | | | | | |
| 4 | | | | | | | | | | |
| 5 | | | | | | | | | | |
| 6 | | | | | | | | | | |
| 7 | | | | | | | | | | |
| 8 | | | | | | | | | | |
| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |
| 11 | | | | | | | | | | |
| 12 | | | | | | | | | | |
| Average | | | | | | | | | | |
| Criteria | ±2 °F | ±10% of Average | ±15 of Average | ±15 of Average | ±10% of Avg. | ±10% of Avg. | < 1/2 inch off mat | All Y | | |

## 17.3 VSE Factor Calculation

**Table 17.3—Calculations Worksheet**

| **Vapor suppressed** | | **Non-vapor suppressed** | |
|---|---|---|---|
| **Test #** | **% Weight loss** | **Test #** | **% Weight loss** |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| Average Weight Loss | | | |
| VSE Factor | | | |

VSE Factor = 1—(% Average Weight $Loss_{VS}$/ % Average Weight $Loss_{NVS}$)

17.4 Figures

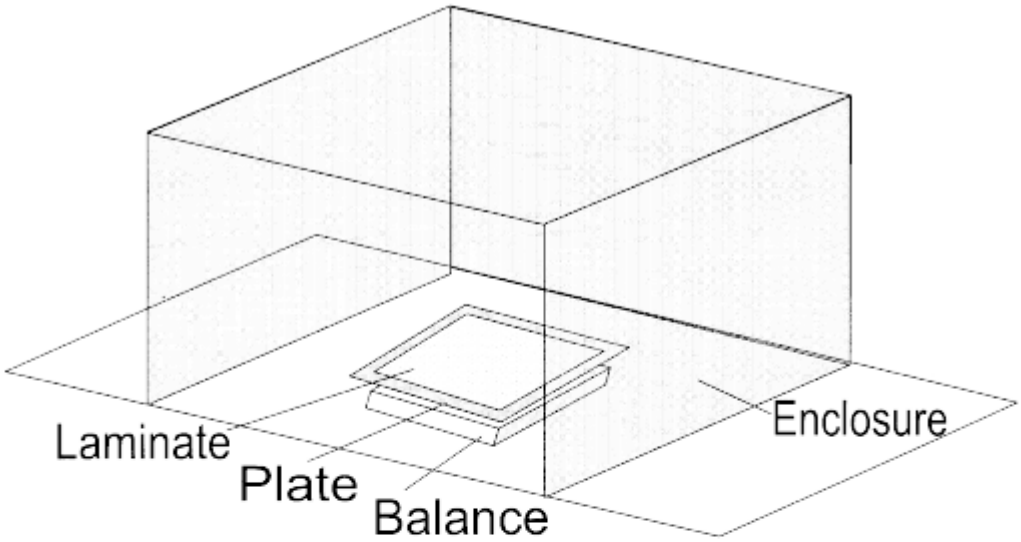



Figure 17.1. Typical Balance Enclosure

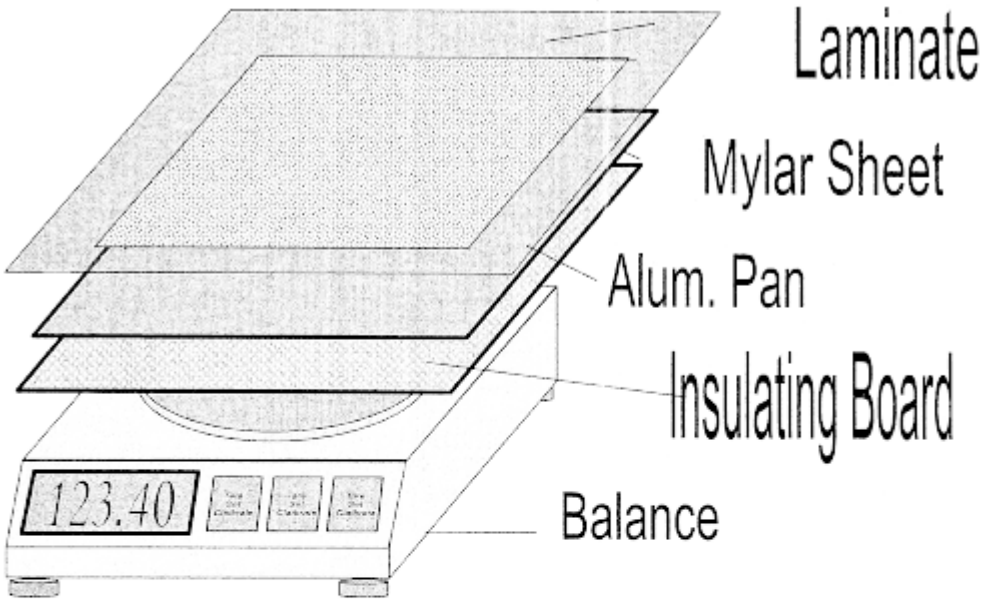
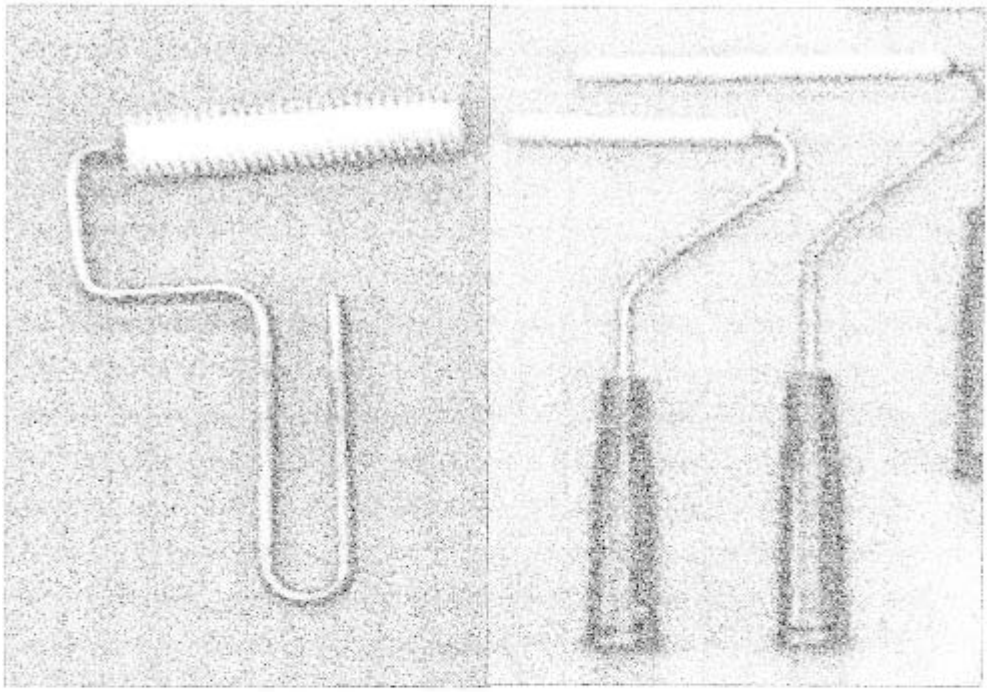



Figure 17.2. Scale, Plate, Insulating Board, Mylar, Laminate Order



FRP Rollers

Figure 17.5. Typical FRP Rollers

# Indiana Department of Environmental Management
# Office of Air Quality

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

### Source Description and Location

| | |
|---|---|
| Source Name: | Frontline Manufacturing, Inc. |
| Source Location: | 2466 North, 200 West, Warsaw, Indiana 46580 |
| County: | Kosciusko |
| SIC Code: | 3088 |
| Operation Permit Renewal No.: | T085-18852-00077 |
| Operation Permit Issuance Date: | December 31, 2007 |
| Significant Source Modification No.: | 085-28953-00077 |
| Significant Permit Modification No.: | 085-28963-00077 |
| Permit Reviewer: | Laura Spriggs |

### Existing Approvals

The source was issued Part 70 Operating Permit Renewal No. T085-18852-00077 on December 31, 2007. The source has not received any additional approvals since the issuance of the Part 70 Operating Permit Renewal.

### County Attainment Status

The source is located in Kosciusko County.

| Pollutant | Designation |
|---|---|
| $SO_2$ | Better than national standards. |
| CO | Unclassifiable or attainment effective November 15, 1990. |
| $O_3$ | Unclassifiable or attainment as of June 15, 2004, for the 8-hour ozone standard.[1] |
| $PM_{10}$ | Unclassifiable effective November 15, 1990. |
| $NO_2$ | Cannot be classified or better than national standards. |
| Pb | Not designated. |

[1]Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005.
Unclassifiable or attainment effective April 5, 2005, for PM2.5.

(a) Ozone Standards
Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to ozone. Kosciusko County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(b) PM2.5
Kosciusko County has been classified as attainment for PM2.5. On May 8, 2008 U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM2.5 emissions, and the effective date of these rules was July 15, 2008. Indiana has

three years from the publication of these rules to revise its PSD rules, 326 IAC 2-2, to include those requirements. The May 8, 2008 rule revisions require IDEM to regulate PM10 emissions as a surrogate for PM2.5 emissions until 326 IAC 2-2 is revised.

(c) Other Criteria Pollutants
Kosciusko County has been classified as attainment or unclassifiable in Indiana for PM10, SO2, NOx, CO, and lead. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

## Fugitive Emissions

Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2, 326 IAC 2-3, or 326 IAC 2-7, and there is no applicable New Source Performance Standard that was in effect on August 7, 1980, fugitive emissions are not counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

## Source Status

The table below summarizes the potential to emit of the entire source, prior to the proposed modification, after consideration of all enforceable limits established in the effective permits:

| **Pollutant** | **Emissions** (ton/yr) |
|---|---|
| PM | 14.99 |
| $PM_{10}$ | 15.11 |
| $SO_2$ | 0.01 |
| VOC | 147.12 |
| CO | 1.87 |
| $NO_X$ | 2.23 |

(a) This existing source is not a major stationary source, under PSD (326 IAC 2-2), because no regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1).

(b) These emissions are based upon the technical support document for Part 70 Operating Permit Renewal No. T085-18852-00077, issued on December 31, 2007.

The table below summarizes the potential to emit HAPs for the entire source, prior to the proposed modification, after consideration of all enforceable limits established in the effective permits:

| **HAPs** | **Potential To Emit** (ton/yr) |
|---|---|
| Single HAP | 147.04 |
| **Total** | **147.04** |

This existing source is a major source of HAPs, as defined in 40 CFR 63.2, because HAP emissions are greater than ten (10) tons per year for a single HAP and greater than twenty-five (25) tons per year for a combination of HAPs. Therefore, this source is a major source under Section 112 of the Clean Air Act (CAA).

## Actual Emissions

The following table shows the actual emissions from the source. This information reflects the 2006 OAQ emission data.

| **Pollutant** | **Actual Emissions** (ton/yr) |
|---|---|
| PM | 0.19 |
| $PM_{10}$ | 0.16 |
| $SO_2$ | Not Reported |
| VOC | 91.33 |
| CO | Not Reported |
| $NO_X$ | Not Reported |
| HAP - Styrene | 91.33 |
| Total HAPs | Not Reported |

## Description of Proposed Modification

The Office of Air Quality (OAQ) has reviewed a modification application from Frontline Manufacturing, Inc., received on February 8, 2010, relating to a re-evaluation of the 326 IAC 8-1-6 BACT determination for the following units:

(a) One (1) fiberglass production line, identified as Line 1, installed in February 1998, with a maximum production rate of 15 fiberglass units per hour, including:

(1) One (1) chop resin application booth, consisting of one (1) non-atomized fluid impingement chop gun, identified as SG1, exhausting to one (1) stack identified as SG1X. The booth is also equipped with dry filters for particulate control.

(2) One (1) gel coat application booth, identified as SG3, consisting of two (2) stationary non-atomized fluid impingement applicators, installed in February 1998, and two (2) portable non-atomized fluid impingement applicators, installed in 2003, using a maximum of two applicators at a time, exhausting to one (1) stack identified as SG3X. The booth is also equipped with dry filters for particulate control.

(b) One (1) fiberglass production line, identified as Line 2, installed in July 1999, with a maximum production rate of 30 fiberglass units per hour, including:

(1) One (1) chop resin application booth, consisting of two (2) non-atomized fluid impingement chop guns, identified as SG7 and SG8, producing up to 30 fiberglass units per hour per gun, and exhausting to three (3) stacks identified as SG7X, SG8X and SG9X. The booth is also equipped with dry filters for particulate control.

(2) One (1) gel coat application booth, identified as SG5, consisting of two (2) stationary non-atomized fluid impingement applicators and two (2) portable non-atomized fluid impingement applicators, using two applicators at a time, exhausting to one (1) stack identified as SG5X. The booth is also equipped with dry filters for particulate control.

The units are not being physically modified, but the BACT requirements, pursuant to 326 IAC 8-1-6 are being re-evaluated. Appendix A to this Technical Support Document provides the detailed BACT analysis.

## Enforcement Issues

There are no pending enforcement actions related to this modification.

## Permit Level Determination – Part 70

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

This source modification is subject to 326 IAC 2-7-10.5(f)(2) (significant source modification) because it is subject to 326 IAC 8-1-6. Additionally, the modification will be incorporated into the Part 70 Operating Permit through a significant permit modification issued pursuant to 326 IAC 2-7-12(1) because it involves a case-by-case determination of an emission limitation or standard.

## Permit Level Determination – PSD or Emission Offset

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source and permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

| | **Potential to Emit** (ton/yr) | | | | | |
|---|---|---|---|---|---|---|
| **Process / Emission Unit** | **PM** | **$PM_{10}$** | **$SO_2$** | **VOC** | **CO** | **$NO_X$** |
| Chop Resin Gun (ID SG1) | 226.14[a] | 226.05[a] | - | 100[a] | - | - |
| Gel Coat Booth (ID SG3) | | | - | | - | - |
| Gel Coat Booth (ID SG5) | | | - | 145[a] | - | - |
| Chop Resin Gun (ID SG7) | | | - | | - | - |
| Chop Resin Gun (ID SG8) | | | - | | - | - |
| Other VOC sources | - | - | - | < 4[b] | - | - |
| Trim Booths & Saws (T1, T2, SR, TS, CS) | 6.59 | 6.59 | - | - | - | - |
| Natural Gas Combustion | 0.04 | 0.17 | 0.01 | 0.12 | 1.87 | 2.23 |
| Total for Source | 232.77 | 232.81 | 0.01 | < 249.12 | 1.87 | 2.23 |
| PSD Major Source Threshold | 250 | 250 | 250 | 250 | 250 | 250 |

[a] Limit to render 326 IAC 2-2 (PSD) not applicable.
[b] Estimated.

This modification to an existing minor stationary source is not major because the emissions increase is less than the PSD major source thresholds. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply. This source is continuing to be limited to less than PSD major source thresholds.

Since the unrestricted potential to emit VOC is greater than the PSD major source threshold of 250 tons per year, the source has elected to limit the potential to emit of the resin and gel coat booths as follows:

(a) The usage of resins, gel coats, catalysts, mold release agents, and solvents at the Line 1 reinforced plastic composites manufacturing operations, including the resin application guns (SG1) and the gel coat application booth (SG3), shall be limited such that the total VOC emissions from these units is less than 100 tons per twelve (12) consecutive month

period, with compliance determined at the end of each month.

(b) The usage of resins, gel coats, catalysts, mold release agents, and solvents at the Line 2 reinforced plastic composites manufacturing operations, including the resin application guns (SG7 and SG8) and the gel coat application booth (SG5), shall be limited such that the total VOC emissions from these units is less than 145 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with the above limits, combined with the potential to emit VOC from other units at the source, limits the total source wide VOC emissions to less than 250 tons per twelve (12) consecutive month period and renders 326 IAC 2-2 not applicable.

## Federal Rule Applicability Determination

The following is a discussion of the federal rule applicability for the source due to this modification:

**NSPS:**

(a) There are no new New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) applicable to this proposed modification.

**NESHAP:**

(b) There are no new National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) applicable to this proposed modification. The source is still subject to the National Emission Standards for Hazardous Air Pollutants for Reinforced Plastic Composites Production as described in the Technical Support for Part 70 Operating Permit Renewal No. T085-18852-00077, issued on December 31, 2007. In addition to the applicable provisions listed in the technical support document, the following Tables are also applicable to the source:

(a) Table 1 to Subpart WWWW of Part 63
(b) Table 2 to Subpart WWWW of Part 63
(c) Table 3 to Subpart WWWW of Part 63
(d) Table 4 to Subpart WWWW of Part 63
(e) Table 7 to Subpart WWWW of Part 63
(f) Table 8 to Subpart WWWW of Part 63
(g) Table 9 to Subpart WWWW of Part 63
(h) Table 13 to Subpart WWWW of Part 63
(i) Table 14 to Subpart WWWW of Part 63
(j) Table 15 to Subpart WWWW of Part 63

The entire rule will be included as Attachment A to the permit.

**CAM:**

(c) The CAM analysis has not changed as a result of this proposed modification.

## State Rule Applicability Determination

The following is a discussion of the state rule applicability to the source due to the modification:

**326 IAC 2-2 and 2-3 (PSD and Emission Offset)**
Since the unrestricted potential to emit VOC is greater than the PSD major source threshold of 250 tons per year, the source has elected to limit the potential to emit of the resin and gel coat booths as follows:

(a) The usage of resins, gel coats, catalysts, mold release agents, and solvents at the Line 1 reinforced plastic composites manufacturing operations, including the resin application guns (SG1) and the gel coat application booth (SG3), shall be limited such that the total VOC emissions from these units is less than 100 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) The usage of resins, gel coats, catalysts, mold release agents, and solvents at the Line 2 reinforced plastic composites manufacturing operations, including the resin application guns (SG7 and SG8) and the gel coat application booth (SG5), shall be limited such that the total VOC emissions from these units is less than 145 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with the above limits, combined with the potential to emit VOC from other units at the source, limits the total source wide VOC emissions to less than 250 tons per twelve (12) consecutive month period and renders 326 IAC 2-2 not applicable.

**326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))**
The operation of the fiberglass production facilities will emit greater than ten (10) tons per year for a single HAP and greater than twenty-five tons per year for a combination of HAPs. Therefore, 326 IAC 2-4.1 would apply, however, pursuant to 326 IAC 2-4.1-1(b)(2), because SG1, SG3, SG5, SG7, and SG8 are specifically regulated by NESHAP 40 CFR 63, Subpart WWWW, which was issued pursuant to Section 112(d) of the CAA, these facilities are exempt from the requirements of 326 2-4.1.

**326 IAC 2-6 (Emission Reporting)**
Since this source is required to have an operating permit under 326 IAC 2-7, Part 70 Permit Program, this source is subject to 326 IAC 2-6 (Emission Reporting). In accordance with the compliance schedule in 326 IAC 2-6-3, an emission statement must be submitted triennially. The first report is due no later than July 1, 2004, and subsequent reports are due every three (3) years thereafter. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

**326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)**
The applicability of 326 IAC 6-3-2 has not changed as a result of this proposed modification. See the technical support document for Part 70 Operating Permit Renewal No. T085-18852-00077 for more detail.

**326 IAC 20-56 (Reinforced Plastic Composites Production)**
The applicability of 326 IAC 20-56 has not changed as a result of this proposed modification. See the technical support document for Part 70 Operating Permit Renewal No. T085-18852-00077 for more detail.

**326 IAC 8-1-6 (New Facilities, General Reduction Requirements)**
Frontline Manufacturing, Inc. has applied for a re-evaluation of their 326 IAC 8-1-6 BACT requirements. Appendix A to this TSD provides a complete discussion of the existing BACT requirements and a full BACT evaluation.

Pursuant to 326 IAC 8-1-6, the Best Available Control Technology (BACT) for VOC emissions from the Line 1 fiberglass production line (SG1 and SG3) and the Line 2 fiberglass production line (SG5, SG7, and SG8) shall be as follows:

(a) Compliance with all applicable requirements of 40 CFR 63, Subpart WWWW, as specified in Section E.1 of the permit.

(b) Compliance with the following requirements of 326 IAC 20-56-2, Operator Training:

(1) Each owner or operator shall train all new and existing personnel, including contract personnel, who are involved in resin and gel coat spraying and

applications that could result in excess emissions if performed improperly according to the following schedule:

(A) All personnel hired shall be trained within thirty (30) days of hiring.

(B) To ensure training goals listed in subparagraph (b)(2) are maintained, all personnel shall be given refresher training annually.

(C) Personnel who have been trained by another owner or operator subject to this rule are exempt from subparagraph (b)(1)(A) if written documentation that the employee's training is current is provided to the new employer.

(2) The lesson plans shall cover, for the initial and refresher training, at a minimum, all of the following topics:

(A) Appropriate application techniques.

(B) Appropriate equipment cleaning procedures.

(C) Appropriate equipment setup and adjustment to minimize material usage and overspray.

(3) The owner or operator shall maintain the following training records on site and make them available for inspection and review:

(A) A copy of the current training program.

(B) A list of the following:

(i) All current personnel, by name, that are required to be trained.

(ii) The date the person was trained or the date of the most recent refresher training, whichever is later.

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

## Compliance Determination and Monitoring Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with all applicable state and federal rules on a continuous basis. All state and federal rules contain compliance provisions; however, these provisions do not always fulfill the requirement for a 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 Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

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

Changes to the compliance determination and monitoring requirements are detailed in the *Proposed Changes* section of this document.

## Proposed Changes

The changes listed below have been made to Part 70 Operating Permit Renewal No. T085-18852-00077. Deleted language appears as ~~strikethroughs~~ and new language appears in **bold**:

**Change No. 1:**

The following changes have been made to Section A of the permit:

(a) Section A - General Information of the permit has been revised to clarify the source operation and to correct the SIC code as specified in the permit application.

(b) IDEM, OAQ has decided to remove all references to the source mailing address. IDEM, OAQ will continue to maintain records of the mailing address.

(c) The emission unit descriptions in A.2 have been revised for clarity.

The permit has been revised as follows:

A.1 General Information [326 IAC 2-7-4(c)][326 IAC 2-7-5(15)][326 IAC 2-7-1(22)]

The Permittee owns and operates a stationary fiberglass products (shower~~/~~ tub**s**) manufacturing **operation**~~source~~.

| | |
|---|---|
| Source Address: | 2466 North, 200 West,~~,~~ Warsaw, Indiana 46580 |
| ~~Mailing Address:~~ | ~~P.O. Box 176, Leesburg, Indiana 46538~~ |
| General Source Phone Number: | 574-453-2902 |
| SIC Code: | ~~3714~~**3088** |
| County Location: | Kosciusko |
| Source Location Status: | Attainment for all criteria pollutants |
| Source Status: | Part 70 Operating Permit Program<br>Minor Source, under PSD Rules<br>Major Source, **under** Section 112 of the Clean Air Act<br>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)]

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

(a) **One (1) fiberglass production line, identified as Line 1, installed in February 1998, with a maximum production rate of 15 fiberglass units per hour, including:**

**(1)** One **(1)** chop resin application booth, consisting of one (1) non-atomized fluid impingement chop gun, identified as SG1, ~~installed in February 1998, producing up to 15 fiberglass units per hour, and~~ exhausting to one (1) stack identified as SG1X. The booth is also equipped with dry filters ~~as~~ **for** particulate control.

~~(c)~~**(2)** One (1) gel coat application booth, identified as SG3, consisting of two (2) stationary non-atomized fluid impingement applicators, installed in February 1998, and two (2) portable non-atomized fluid impingement applicators, installed in 2003, using a maximum of two applicators at a time, ~~producing up to 15 fiberglass units per hour, and~~ exhausting to one (1) stack identified as SG3X. The booth is also equipped with dry filters for particulate control.

(b) **One (1) fiberglass production line, identified as Line 2, installed in July 1999, with a maximum production rate of 30 fiberglass units per hour, including:**

**(1)** One **(1)** chop resin application booth, consisting of two (2) non-atomized fluid impingement chop guns, identified as SG7 and SG8, ~~installed in July 1999,~~ producing up to 30 fiberglass units per hour per gun, and exhausting to three (3) stacks identified as SG7X, SG8X and SG9X. The booth is also equipped with dry filters ~~as~~ **for** particulate control.

~~(d)~~**(2)** One (1) gel coat application booth, identified as SG5, ~~constructed in July 1999,~~ consisting of two (2) stationary non-atomized fluid impingement applicators and two (2) portable non-atomized fluid impingement applicators, using two applicators at a time, ~~producing up to 30 fiberglass units per hour, and~~ exhausting to one (1) stack identified as SG5X. The booth is also equipped with dry filters for particulate control.

Under 40 CFR 63, Subpart WWWW, this reinforced plastic composites production plant is considered an existing affected source.

**Change No. 2:**

IDEM, OAQ has made changes to some of the standard language in the B and C conditions of the permit to help clarify the intent of these conditions. The following revisions have been made to the B and C Sections of the permit:

(a) Multiple Conditions
IDEM, OAQ has decided that the phrases "no later than" and "not later than" are clearer than "within" in relation to the end of a timeline. Therefore, all references to timelines have been revised to "no later than" or "not later than" except for the timelines in subparagraphs (b)(4) and (b)(5) of Section B - Emergency Provisions and Section B - Annual Fee Payment, in which the underlying rules state "within".

(b) Multiple Conditions
326 IAC 2-7 requires that "a responsible official" perform certain actions. 326 IAC 2-7-1(34) allows for multiple people to meet the definition of "responsible official." Therefore, IDEM, OAQ is revising all instances of "the responsible official" to read "a responsible official".

(c) Multiple Conditions
IDEM, OAQ has decided to clarify what rule requirements a certification needs to meet.

(d) Multiple Conditions
Several of IDEM's Branches and sections have been renamed. Therefore, IDEM has updated the addresses listed in the permit. References to Permit Administration and Development Section and the Permits Branch have been changed to Permit Administration and Support Section. References to Asbestos Section, Compliance Data Section, Air Compliance Section, and Compliance Branch have been changed to Compliance and Enforcement Branch.

(e) Section B - Enforceability
The applicable Indiana Code citation was added to Section B - Enforceability.

(f) Section B - Duty to Provide Information
IDEM, OAQ has revised Section B - Duty to Provide Information by removing the statement that the submittal by the Permittee requires the certification by the "responsible official".

(g) Section B - Certification
To clarify that Section B - Certification only states what a certification must be, IDEM,

OAQ has revised the condition.

(h) Section B - Preventive Maintenance Plan
IDEM, OAQ has added a new paragraph (b) to handle a future situation where the Permittee adds units that need preventive maintenance plans developed. IDEM, OAQ has also decided to clarify other aspects of Section B - Preventive Maintenance Plan.

(i) Section B - Emergency Provisions
IDEM, OAQ is revising Section B - Emergency Provisions to delete paragraph (h). 326 IAC 2-7-5(3)(C)(ii) allows that deviations reported under an independent requirement do not have to be included in the Quarterly Deviation and Compliance Monitoring Report.

(j) Section B - Deviation from Permit Requirements and Section C - General Reporting Requirements
IDEM, OAQ has decided that having a separate condition for the reporting of deviations is unnecessary. Therefore, Section B - Deviation from Permit Requirements and Conditions has been removed and the requirements of that condition have been added to Section C - General Reporting Requirements. Paragraph (d) of Section C - General Reporting Requirements has been removed because IDEM, OAQ already states the timeline and certification needs of each report in the condition requiring the report. Subparagraph (g)(4), which is now (f)(4), has been revised to match the underlying rule language.

(k) Section B - Permit Renewal
IDEM, OAQ has decided to state which rule establishes the authority to set a deadline for the Permittee to submit additional information. Therefore, Section B - Permit Renewal has been revised.

(l) Section B - Permit Revision Under Economic Incentives and Other Programs
IDEM, OAQ has decided to state that no notice is required for approved changes in Section B - Permit Revision Under Economic Incentives and Other Programs.

(m) Section B - Source Modification Requirement
IDEM, OAQ has decided to reference 326 IAC 2 in Section B - Source Modification Requirement rather than the specific construction rule.

(n) Section C - Opacity
IDEM, OAQ has added 326 IAC 5-1-1 to the exception clause of Section C - Opacity, since 326 IAC 5-1-1 does list exceptions.

(o) Section C - Incineration
IDEM, OAQ has revised Section C - Incineration to more closely reflect the two underlying rules.

(p) Section C - Asbestos Abatement Projects
IDEM, OAQ has revised paragraph (g) of Section C - Asbestos Abatement Projects to match the rule language in 326 IAC 14-10-1(a).

(q) Section C - Performance Testing
IDEM, OAQ has removed the first paragraph of Section C - Performance Testing due to the fact that specific testing conditions elsewhere in the permit will specify the timeline and procedures.

(r) Section C - Compliance Monitoring
IDEM, OAQ has revised Section C - Compliance Monitoring. The reference to recordkeeping has been removed due to the fact that other conditions already address recordkeeping. The voice of the condition has been changed to clearly indicate that it is the Permittee that must follow the requirements of the condition.

(s) Section C - Monitoring Methods
IDEM, OAQ has removed Section C - Monitoring Methods. The conditions that require the monitoring or testing, if required, state what methods shall be used.

(t) Section C - Emergency Reduction Plans
IDEM, OAQ has decided not to list the submission date of the ERP because the ERP can be updated without a permit change.

(u) Section C - Response to Excursions or Exceedances
IDEM, OAQ has revised Section C - Response to Excursions or Exceedances. The introduction sentence has been added to clarify that it is only when an excursion or exceedance is detected that the requirements of this condition need to be followed. The word "excess" was added to the last sentence of paragraph (a) because the Permittee only has to minimize excess emissions. The middle of paragraph (b) has been deleted as it was duplicative of paragraph (a). The phrase "or are returning" was added to subparagraph (b)(2) as this is an acceptable response assuming the operation or emission unit does return to normal or its usual manner of operation. The phrase "within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable" was replaced with "normal or usual manner of operation" because the first phrase is just a limited list of the second phrase. The recordkeeping required by paragraph (e) was changed to require only records of the response because the previously listed items are required to be recorded elsewhere in the permit.

(v) Section C - Actions Related to Noncompliance Demonstrated by a Stack Test
IDEM, OAQ has revised Section C - Actions Related to Noncompliance Demonstrated by a Stack Test. The requirements to take response steps and minimize excess emissions have been removed because Section C - response to Excursions or Exceedances already requires response steps related to exceedances and excess emissions minimization. The start of the timelines was revised from "the receipt of the test results" to "the date of the test". There was confusion if the "receipt" was by IDEM, the Permittee or someone else. Since the start of the timelines has been moved up, the length of the timelines was increased. The new timelines require action within a comparable timeline; and the new timelines still ensure that the Permittee will return to compliance within a reasonable timeframe.

(w) Section C - Emission Statement
IDEM, OAQ decided to remove paragraph (c) of Section C - Emission Statement since it was duplicative of the requirement in Section C - General Reporting Requirements.

(x) Section C - General Record Keeping Requirements
The voice of paragraph (b) of Section C - General Record Keeping Requirements has been changed to clearly indicate that it is the Permittee that must follow the requirements of the paragraph.

(y) Section C - Compliance with 40 CFR 82 and 326 IAC 22-1
IDEM, OAQ has decided to simplify the referencing in Section C - Compliance with 40 CFR 82 and 326 IAC 22-1.

The permit has been revised as follows:

SECTION B GENERAL CONDITIONS

* * *

B.4 Enforceability [326 IAC 2-7-7] **[IC 13-17-12]**

* * *

* * *

B.7 Duty to Provide Information [326 IAC 2-7-5(6)(E)]

(a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. ~~The submittal by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).~~ Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.

(b) * * *

B.8 Certification [326 IAC 2-7-4(f)][326 IAC 2-7-6(1)][326 IAC 2-7-5(3)(C)]

(a) ~~Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by the "responsible official" of truth, accuracy, and completeness. This certificaiton shall state that,~~**A certification required by this permit meets the requirements of 326 IAC 2-7-6(1) if:**

**(i) it contains a certification by a "responsible official" as defined by 326 IAC 2-7-1(34), and**

**(ii) the certification states that,** based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) ~~One (1) certification shall be included, using~~**The Permittee may use** the attached Certification Form, **or its equivalent** with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.

(c) * * *

B.9 Annual Compliance Certification [326 IAC 2-7-6(5)]

(a) * * *

Indiana Department of Environmental Management
Compliance **and Enforcement** Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

* * *

(b) * * *

(c) * * *

The submittal by the Permittee does require ~~the~~ **a** certification **that meets the requirements of 326 IAC 2-7-6(1)** by ~~the~~**a** "responsible official" as defined by 326 IAC 2-7-1(34).

B.10 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)][326 IAC 2-7-6(1) and (6)][326 IAC 1-6-3]

~~(a) If required by specific condition(s) in Section D of this permit, the Permittee shall maintain and implement Preventive Maintenance Plans (PMPs) including the following information on each facility:~~

**(a) A Preventive Maintenance Plan meets the requirements of 326 IAC 1-6-3 if it includes, at a minimum:**

(1) * * *

(2) * * *

(3) * * *

**The Permittee shall implement the PMPs.**

(b) **If required by specific condition(s) in Section D of this permit where no PMP was previously required, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this permit or ninety (90) days after initial start-up, whichever is later, including the following information on each facility:**

**(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;**

**(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and**

**(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.**

**If, due to circumstances beyond the Permittee's control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:**

**Indiana Department of Environmental Management**
**Compliance and Enforcement Branch, Office of Air Quality**
**100 North Senate Avenue**
**MC 61-53 IGCN 1003**
**Indianapolis, Indiana 46204-2251**

**The PMP extension notification does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).**

**The Permittee shall implement the PMPs.**

**(c)** A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions~~ or potential to emit.~~ **.** The PMPs **and their submittal** do not require ~~the~~ **a** certification **that meets the requirements of 326 IAC 2-7-6(1)** by ~~the~~**a** "responsible official" as defined by 326 IAC 2-7-1(34).

(~~c~~**d**) * * *

B.11 Emergency Provisions [326 IAC 2-7-16]

(a) * * *

(b) * * *

(1) * * *

(2) * * *

(3) * * *

(4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, ~~and~~ **or** Northern Regional Office within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance ~~Section~~**and Enforcement Branch**), or
Telephone Number: 317-233-0178 (ask for **Office of Air Quality,** Compliance ~~Section~~**and Enforcement Branch**)
Facsimile Number: 317-233-6865
Northern Regional Office phone: (574) 245-4870; fax: (574) 245-4877**.**

(5) * * *

Indiana Department of Environmental Management
Compliance **and Enforcement** Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

* * *

The notification which shall be submitted by the Permittee does not require ~~the~~ **a** certification **that meets the requirements of 326 IAC 2-7-6(1)** by ~~the~~**a** "responsible official" as defined by 326 IAC 2-7-1(34).

(6) * * *

(c) * * *

(d) * * *

(e) * * *

(f) * * *

(g) * * *

~~(h) The Permittee shall include all emergencies in the Quarterly Deviation and Compliance Monitoring Report.~~

* * *

~~B.15 Deviations from Permit Requirements and Conditions [326 IAC 2-7-5(3)(C)(ii)]~~

~~(a) Deviations from any permit requirements (for emergencies see Section B - Emergency Provisions), the probable cause of such deviations, and any response steps or preventive measures taken shall be reported to:~~

~~Indiana Department of Environmental Management~~
~~Compliance Data Section, Office of Air Quality~~
~~100 North Senate Avenue~~
~~MC 61-53 IGCN 1003~~
~~Indianapolis, Indiana 46204-2251~~

~~using the attached Quarterly Deviation and Compliance Monitoring Report, or its equivalent. A deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report.~~

~~The Quarterly Deviation and Compliance Monitoring Report does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).~~

~~(b) A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.~~

B.~~16~~**15** Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-7-5(6)(C)][326 IAC 2-7-8(a)][326 IAC 2-7-9]

(a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Part 70 Operating Permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit.
[326 IAC 2-7-5(6)(C)] The notification by the Permittee does require ~~the~~ **a** certification **that meets the requirements of 326 IAC 2-7-6(1)** by ~~the~~ **a** "responsible official" as defined by 326 IAC 2-7-1(34).

(b) * * *

(c) * * *

(d) * * *

B.~~17~~**16** Permit Renewal [326 IAC 2-7-3][326 IAC 2-7-4][326 IAC 2-7-8(e)]

(a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-7-4. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require ~~the~~ **a** certification **that meets the requirements of 326 IAC 2-7-6(1)** by ~~the~~**a** "responsible official" as defined by 326 IAC 2-7-1(34).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
~~Permits Branch~~
**Permit Administration and Support Section**, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

(b) * * *

(c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-7 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified**, pursuant to 326 IAC 2-7-4(a)(2)(D),** in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.~~18~~**17** Permit Amendment or Modification [326 IAC 2-7-11][326 IAC 2-7-12]

(a) * * *

(b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
~~Permits Branch~~
**Permit Administration and Support Section**, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application ~~shall be certified~~**does require a certification that meets the requirements of 326 IAC 2-7-6(1)** by ~~the~~ **a** "responsible official" as defined by 326 IAC 2-7-1(34).

(c) * * *

B.~~19~~**18** Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-7-5(8)][326 IAC 2-7-12(b)(2)]

(a) No Part 70 permit revision **or notice** shall be required under any approved economic incentives, marketable Part 70 permits, emissions trading, and other similar programs or processes for changes that are provided for in a Part 70 permit.

(b) * * *

B.~~20~~**19** Operational Flexibility [326 IAC 2-7-20][326 IAC 2-7-10.5]

(a) * * *

Indiana Department of Environmental Management
~~Permits Branch~~
**Permit Administration and Support Section**, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

* * *

(b) * * *

The notification which shall be submitted is not considered an application form, report or compliance certification. Therefore, the notification by the Permittee does not require ~~the~~**a** certification **that meets the requirements of 326 IAC 2-7-6(1)** by ~~the~~**a** "responsible official" as defined by 326 IAC 2-7-1(34).

(c) * * *

(d) * * *

(e) * * *

B.~~21~~**20** Source Modification Requirement [326 IAC 2-7-10.5]

A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2~~-and 326 IAC 2-7-10.5~~.

B.~~22~~**21** Inspection and Entry [326 IAC 2-7-6][IC 13-14-2-2][IC 13-30-3-1][IC 13-17-3-2]

* * *

B.~~23~~**22** Transfer of Ownership or Operational Control [326 IAC 2-7-11]

(a) * * *

(b) * * *

Indiana Department of Environmental Management
~~Permits Branch~~
**Permit Administration and Support Section**, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

~~The~~**Any such** application ~~which shall be submitted by the Permittee~~ does require ~~the~~**a** certification **that meets the requirements of 326 IAC 2-7-6(1)** by ~~the~~**a** "responsible official" as defined by 326 IAC 2-7-1(34).

(c) * * *

B.~~24~~**23** Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)][326 IAC 2-1.1-7]

* * *

B.~~25~~**24** Credible Evidence [326 IAC 2-7-5(3)][326 IAC 2-7-6][62 FR 8314] [326 IAC 1-1-6]

* * *

SECTION C SOURCE OPERATION CONDITIONS

| Entire Source |
|---|

* * *

C.2 Opacity [326 IAC 5-1]

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

(a) * * *

(b) * * *

* * *

C.4 Incineration [326 IAC 4-2] [326 IAC 9-1-2]

The Permittee shall not operate an incinerator ~~or incinerate any waste or refuse~~ except as provided in 326 IAC 4-2 ~~and~~**or in this permit. The Permittee shall not operate a refuse incinerator or refuse burning equipment except as provided in** 326 IAC 9-1-2 **or in this permit**.

* * *

C.6 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

(a) * * *

(b) * * *

(c) * * *

(d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management
~~Asbestos Section~~
**Compliance and Enforcement Branch**, Office of Air Quality
100 North Senate Avenue
MC 61-~~52~~**53** IGCN 1003
Indianapolis, Indiana 46204-2251

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification **that meets the requirements of 326 IAC 2-7-6(1)** by ~~the~~**a** "responsible official" as defined by 326 IAC 2-7-1(34).

(e) * * *

(f) * * *

(g) Indiana ~~Accredited~~**Licensed** Asbestos Inspector
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana ~~Accredited~~**Licensed** Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement to use an Indiana ~~Accredited~~**Licensed** Asbestos inspector is not federally enforceable.

Testing Requirements [326 IAC 2-7-6(1)]

C.7 Performance Testing [326 IAC 3-6]

(a) ~~All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.~~

~~A~~**For performance testing required by this permit, a** test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance ~~Data Section~~**and Enforcement Branch**, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require **a** certification **that meets the requirements of 326 IAC 2-7-6(1)** by ~~the~~**a** "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require **a** certification by ~~the~~**a** "responsible official" as defined by 326 IAC 2-7-1(34).

(c) * * *

* * *

C.9 Compliance Monitoring [326 IAC 2-7-5(3)][326 IAC 2-7-6(1)]

Unless otherwise specified in this permit, **for** all monitoring ~~and record keeping~~ requirements not already legally required ~~shall be implemented within ninety (90) days of permit issuance. If required by Section D~~, the Permittee shall be ~~responsible for installing any necessary equipment and initiating any required~~**allowed up to ninety (90) days from the date of permit issuance or**

**of initial start-up, whichever is later, to begin such** monitoring~~ related to that equipment~~. If due to circumstances beyond ~~its~~**the Permittee's** control, ~~that equipment~~**any monitoring equipment required by this permit** cannot be installed and operated ~~within~~**no later than** ninety (90) days **after permit issuance or the date of initial startup, whichever is later**, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance **and Enforcement** Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require ~~the~~ **a** certification **that meets the requirements of 326 IAC 2-7-6(1)** by ~~the~~**a** "responsible official" as defined by 326 IAC 2-7-1(34).

* * *

~~C.10 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]~~

~~Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, 40 CFR 60, Appendix B, 40 CFR 63, or other approved methods as specified in this permit.~~

C.~~11~~**10** Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

* * *

Corrective Actions and Response Steps [326 IAC 2-7-5][326 IAC 2-7-6]

C.~~12~~**11** Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

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

(a) The Permittee ~~prepared and~~**shall maintain the most recently** submitted written emergency reduction plans (ERPs) consistent with safe operating procedures~~ on May 24, 2000~~.

(b) * * *

C.~~13~~**12** Risk Management Plan [326 IAC 2-7-5(12)] [40 CFR 68]

* * *

C.~~14~~**13** Response to Excursions or Exceedances [326 IAC 2-7-5] [326 IAC 2-7-6]

**Upon detecting an excursion where a response step is required by the D Section or an exceedance of a limitation in this permit:**

(a) ~~Upon detecting an excursion or exceedance, the~~**The** Permittee shall **take reasonable response steps to** restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing **excess** emissions.

(b) The response shall include minimizing the period of any startup, shutdown or malfunction ~~and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by~~

~~excused startup or shutdown conditions). Corrective actions~~**. The response** may include, but ~~are~~**is** not limited to, the following:

(1) initial inspection and evaluation;

(2) recording that operations returned **or are returning** to normal without operator action (such as through response by a computerized distribution control system); or

(3) any necessary follow-up actions to return operation to ~~within the indicator range, designated condition, or below the applicable emission limitation~~**normal** or ~~standard, as applicable~~**usual manner of operation**.

(c) * * *

(d) * * *

(e) The Permittee shall ~~maintain~~**record** the ~~following records:~~**reasonable response steps taken.**

~~(1) monitoring data;~~

~~(2) monitor performance data, if applicable; and~~

~~(3) corrective actions taken.~~

C.~~15~~**14** Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5][326 IAC 2-7-6]

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall ~~take appropriate response actions. The Permittee shall~~ submit a description of ~~these~~**its** response actions to IDEM, OAQ, ~~within thirty (30)~~**no later than seventy-five (75)** days ~~of receipt~~**after the date** of the test ~~results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented~~.

(b) A retest to demonstrate compliance shall be performed ~~within~~**no later than** one hundred ~~twenty (120)~~**eighty (180)** days ~~of receipt of~~**after** the ~~original~~**date of the** test ~~results~~. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred ~~twenty (120)~~**eighty (180)** days is not practicable, IDEM, OAQ may extend the retesting deadline~~.~~

(c) * * *

The response action documents submitted pursuant to this condition do require ~~the~~ **a** certification **that meets the requirements of 326 IAC 2-7-6(1)** by ~~the~~**a** "responsible official" as defined by 326 IAC 2-7-1(34).

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

C.~~16~~**15** Emission Statement [326 IAC 2-7-5(3)(C)(iii)][326 IAC 2-7-5(7)][326 IAC 2-7-19(c)][326 IAC 2-6]

~~(a)~~ In accordance with the compliance schedule specified in 326 IAC 2-6-3(b)(1), starting in 2004 and every three (3) years thereafter, the Permittee shall submit by July 1 an emission statement covering the previous calendar year. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4(c) and shall meet the following requirements:

* * *

The emission statement does require ~~the~~ **a** certification **that meets the requirements of 326 IAC 2-7-6(1)** by ~~the "~~**a "**responsible official~~"~~**"** as defined by 326 IAC 2-7-1(34).

~~(b) The emission statement required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.~~

C.~~17~~**16** General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6]

(a) * * *

(b) Unless otherwise specified in this permit, **for** all record keeping requirements not already legally required**, the Permittee** shall be ~~implemented within~~**allowed up to** ninety (90) days **from the date** of permit issuance **or the date of initial start-up, whichever is later, to begin such record keeping**.

C.~~18~~**17** General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11]

(a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. ~~-~~Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported~~.~~ **except that a deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report.** This report shall be submitted ~~within~~**not later than** thirty (30) days ~~of~~**after** the end of the reporting period.~~-~~ The Quarterly Deviation and Compliance Monitoring Report shall include ~~the~~**a** certification **that meets the requirements of 326 IAC 2-7-6(1)** by ~~the~~ **a** "responsible official" as defined by 326 IAC 2-7-1(34). **A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.**

~~(b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:~~**(b) The address for report submittal is:**

Indiana Department of Environmental Management
Compliance ~~Data Section~~**and Enforcement Branch**, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

(c) * * *

~~(d) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).~~

(~~e~~**d**) * * *

Stratospheric Ozone Protection

C.~~19~~**18** Compliance with 40 CFR 82 and 326 IAC 22-1

Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with ~~the~~**applicable** standards for recycling and emissions reduction~~:~~

~~(a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.~~

~~(b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to~~

~~40 CFR 82.158.~~

~~(c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161~~.

**Change No. 3**

The following changes have been made to Section D.1 of the permit:

(a) The emission unit descriptions have been revised for clarity.

(b) Condition D.1.1 was revised to remove the former 326 IAC 8-1-6 BACT requirements and to include the re-evaluated 326 IAC 8-1-6 BACT requirements as determined in Appendix A of this technical support document.

(c) Condition D.1.2 was revised to include a PSD minor limits for VOC.

(d) Condition D.1.4 was removed since the requirements of 326 IAC 20-56 are now included in Condition D.1.1. Subsequent permit conditions have been renumbered.

(e) For clarity, IDEM, OAQ has changed references to the general conditions such as "in accordance with Section B", "in accordance with Section C", or other similar language to "Section C...contains the Permittee's obligation with regard to the records required by this condition.

(f) The word "status" has been added to the Record Keeping Requirements and Reporting Requirements. The Permittee has the obligation to document the compliance status. The wording has been revised to properly reflect this.

(g) IDEM, OAQ has decided that the phrases "no later than" and "not later than" are clearer than "within" in relation to the end of a timeline. Therefore, all references to timelines have been revised to "no later than" or "not later than".

(h) 326 IAC 2-7 requires that "a responsible official" perform certain actions. 326 IAC 2-7-1(34) allows for multiple people to meet the definition of "responsible official." Therefore, IDEM, OAQ is revising all instances of "the responsible official" to read "a responsible official".

(i) IDEM, OAQ has decided to clarify what rule requirements a certification needs to meet.

(j) Conditions D.1.11, D.1.12, and D.1.13, along with the rule language from applicable sections of 40 CFR 63, Subpart WWWW, have been removed from Section D.1. The applicable provisions of the rule are now listed in Section E.1 and the entire rule has been included as Attachment A to the permit.

The permit has been revised as follows:

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(a) **One (1) fiberglass production line, identified as Line 1, installed in February 1998, with a maximum production rate of 15 fiberglass units per hour, including:**

**(1)** One **(1)** chop resin application booth, consisting of one (1) non-atomized fluid impingement chop gun, identified as SG1, ~~installed in February 1998,~~

~~producing up to 15 fiberglass units per hour, and~~ exhausting to one (1) stack identified as SG1X. The booth is also equipped with dry filters ~~as~~ **for** particulate control.

~~(c)~~**(2)** One (1) gel coat application booth, identified as SG3, consisting of two (2) stationary non-atomized fluid impingement applicators, installed in February 1998, and two (2) portable non-atomized fluid impingement applicators, installed in 2003, using a maximum of two applicators at a time, ~~producing up to 15 fiberglass units per hour, and~~ exhausting to one (1) stack identified as SG3X. The booth is also equipped with dry filters for particulate control.

(b) **One (1) fiberglass production line, identified as Line 2, installed in July 1999, with a maximum production rate of 30 fiberglass units per hour, including:**

**(1)** One **(1)** chop resin application booth, consisting of two (2) non-atomized fluid impingement chop guns, identified as SG7 and SG8, ~~installed in July 1999,~~ producing up to 30 fiberglass units per hour per gun, and exhausting to three (3) stacks identified as SG7X, SG8X and SG9X. The booth is also equipped with dry filters ~~as~~ **for** particulate control.

~~(d)~~**(2)** One (1) gel coat application booth, identified as SG5, ~~constructed in July 1999,~~ consisting of two (2) stationary non-atomized fluid impingement applicators and two (2) portable non-atomized fluid impingement applicators, using two applicators at a time, ~~producing up to 30 fiberglass units per hour, and~~ exhausting to one (1) stack identified as SG5X. The booth is also equipped with dry filters for particulate control.

~~(e)~~**(c)** * * *

~~(f)~~**(d)** * * *

~~(g)~~**(e)** * * *

* * *

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 Volatile Organic Compounds (VOC) [326 IAC 8-1-6] **[326 IAC 20-56]**

**Pursuant to SSM No. 085-28953-00077 and 326 IAC 8-1-6 (New Facilities; General Reduction Requirements), the best available control technology (BACT) for VOC emissions from the Line 1 fiberglass production line (SG1 and SG3) and the Line 2 fiberglass production line (SG5, SG7, and SG8) shall be as follows:**

**(a) Compliance with all applicable requirements of 40 CFR 63, Subpart WWWW, as specified in Section E.1 of this permit.**

**(b) Compliance with the following requirements of 326 IAC 20-56-2, Operator Training:**

**(1) Each owner or operator shall train all new and existing personnel, including contract personnel, who are involved in resin and gel coat spraying and applications that could result in excess emissions if performed improperly according to the following schedule:**

**(A) All personnel hired shall be trained within thirty (30) days of hiring.**

**(B) To ensure training goals listed in subparagraph (b)(2) are maintained, all personnel shall be given refresher training annually.**

**(C) Personnel who have been trained by another owner or operator subject to this rule are exempt from subparagraph (b)(1)(A) if written documentation that the employee's training is current is provided to the new employer.**

**(2) The lesson plans shall cover, for the initial and refresher training, at a minimum, all of the following topics:**

**(A) Appropriate application techniques.**

**(B) Appropriate equipment cleaning procedures.**

**(C) Appropriate equipment setup and adjustment to minimize material usage and overspray.**

**(3) The owner or operator shall maintain the following training records on site and make them available for inspection and review:**

**(A) A copy of the current training program.**

**(B) A list of the following:**

**(i) All current personnel, by name, that are required to be trained.**

**(ii) The date the person was trained or the date of the most recent refresher training, whichever is later.**

**(4) Records of prior training programs and former personnel are not required to be maintained.**

~~(a) Pursuant to CP 085-8900-00077, issued on February 17, 1998, and First Administrative Amendment No. 085-17139-00077, issued on February 10, 2003, and as updated in this Part 70 renewal, compliance with 326 IAC 8-1-6 (New Facilities: General Reduction Requirements) shall be achieved with the best available control technology (BACT) for Chop Spray Gun (SG1) and gel coat application booth (SG3) as follows:~~

~~(1) The total resin input shall be limited to 535.71 tons per twelve (12) consecutive month period to the one (1) Chop Spray Guns (SG1). The non vapor suppressed (NVS) resin shall not exceed 5.6 percent flash off.~~

~~(2) The total resin input shall be limited to 115.65 tons per twelve (12) consecutive month period to the gel coat application booth (SG3). The non vapor suppressed (NVS) resin shall not exceed 14.7 percent flash off.~~

~~(3) Use of resins and gel coats shall be limited such that the potential to emit (PTE) volatile organic HAP from resins and gel coats only shall be less than 47 tons, per twelve (12) consecutive months.~~

~~(4) Resins and gel coats used, including filled resins and tooling resins and gel coats, shall be limited to maximum monomer contents of thirty-five percent (35%) by weight for resins, thirty-seven percent (37%) 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.~~

~~The use of resins with monomer contents lower than 35%, gel coats with monomer contents lower than 37%, and/or additional emission reduction techniques approved by IDEM, OAQ, may be used to offset the use of resins with monomer contents higher than 35%, and/or gel coats with monomer contents higher than 37%. Examples of other techniques include, but are not limited to, lower monomer content resins and gel coats, closed molding, vapor suppression, vacuum bagging, controlled spraying, or installing a control device with an overall reduction efficiency of 95%. This is allowed to meet the monomer 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, <37% gel coat, and or other emission reduction techniques).~~

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

~~EF, Monomer emission factor = emission factor, expressed as % styrene emitted per weight of resin applied, which is indicated by the monomer content, method of application, and other emission reduction techniques for each gel coat and resin used.~~

~~(5) Flow coaters, a type of non-spray application technology of a design and specifications to be approved by IDEM, OAQ, shall be used in the following manner:~~

~~(A) to apply 50% of all neat resins within 6 months of commencement of operation.~~

~~(B) to apply 100% of all neat resins used within 1 year of commencement of operation.~~

~~If, after 1 year of operation it is not possible to apply a portion of neat resins with flow coaters, equivalent emissions reductions must be obtained via use of other techniques elsewhere in the process.~~

~~(6) Optimized spray techniques according to a manner approved by IDEM 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 coating 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.~~

~~(7) The listed work practices shall be followed:~~

~~(A) To the extent possible, a non-VOC, non-HAP solvent shall be used for cleanup.~~

~~(B) Cleanup solvent containers used to transport solvent from drums to work stations shall be closed containers having soft gasketed spring-loaded closures.~~

~~(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.~~

~~(F) Storage containers used to store VOC- and/or HAP- containing materials shall be kept covered when not in use.~~

~~(b) Pursuant to Significant Source Modification 085-10774-00077, issued July 22, 1999, and the BACT determination under 326 IAC 8-1-6, operating conditions for the gel coat application booth, identified as (SG5), and two (2) chop spray guns, identified as (SG7 and SG8) 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 only shall be less than 100 tons, per twelve (12) consecutive months, based on the following:~~

~~(A) The total resin input shall be limited to 153.06 tons per twelve (12) consecutive month period to the gel coat application booth (SG5). Gel coats shall not exceed 14.7 percent flash off.~~

~~(B) The total unsaturated polyester resin input shall be limited to 438.8 tons per twelve (12) consecutive month period to each of the two (2) Chop Spray Guns (SG7 and SG8). Unsaturated polyester resin shall not exceed 4.17 percent flash off.~~

~~(2) Resins and gel coats used, including filled resins and tooling resins and gel coats, shall be limited to maximum monomer contents of thirty-five percent (35%) by weight for resins, thirty-seven percent (37%) 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.~~

~~The use of resins with monomer contents lower than 35%, gel coats with monomer contents lower than 37%, and/or additional emission reduction techniques approved by IDEM, OAQ, may be used to offset the use of resins with monomer contents higher than 35%, and/or gel coats with monomer contents higher than 37%. Examples of other techniques include, but are not limited to, lower monomer content resins and gel coats, closed molding, vapor suppression, vacuum bagging, controlled spraying, or installing a control device with an overall reduction efficiency of 95%. This is allowed to meet the monomer 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, <37% gel coat, and or other emission reduction techniques).~~

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

~~EF, Monomer emission factor = emission factor, expressed as % styrene emitted per weight of resin applied, which is indicated by the monomer~~

~~content, method of application, and other emission reduction techniques for each gel coat and resin used.~~

~~(3) Flow coaters, a type of non-spray application technology of a design and specifications to be approved by IDEM, OAQ, shall be used in the following manner:~~

~~(A) to apply 50% of all neat resins within 6 months of commencement of operation.~~

~~(B) to apply 100% of all neat resins used within 1 year of commencement of operation.~~

~~If, after 1 year of operation it is not possible to apply a portion of neat resins with flow coaters, equivalent emissions reductions must be obtained via use of other techniques elsewhere in the process.~~

~~(4) Optimized spray techniques according to a manner approved by IDEM 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 coating 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.~~

~~(5) The listed work practices shall be followed:~~

~~(A) To the extent possible, a non-VOC, non-HAP solvent shall be used for cleanup.~~

~~(B) Cleanup solvent containers used to transport solvent from drums to work stations shall be closed containers having soft gasketed spring-loaded closures.~~

~~(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.~~

~~(F) Storage containers used to store VOC- and/or HAP- containing materials shall be kept covered when not in use.~~

D.1.2 PSD Minor Limit [326 IAC 2-2]

**The Permittee shall comply with the following:**

(a) Particulate matter emissions from chop resin application guns SG1, SG7, and SG8, and gel coat application booths SG3 and SG5 shall not exceed 51.63 pounds per hour~~; and~~**.**

(b) PM10 emissions from chop resin application guns SG1, SG7, and SG8, and gel coat

application booths SG3 and SG5 shall not exceed 51.61 pounds per hour.

**(c) The usage of resins, gel coats, catalysts, mold release agents, and solvents at the Line 1 reinforced plastic composites manufacturing operations, including the resin application guns (SG1) and the gel coat application booth (SG3), shall be limited such that the total VOC emissions from these units is less than 100 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.**

**(d) The usage of resins, gel coats, catalysts, mold release agents, and solvents at the Line 2 reinforced plastic composites manufacturing operations, including the resin application guns (SG7 and SG8) and the gel coat application booth (SG5), shall be limited such that the total VOC emissions from these units is less than 145 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.**

**Compliance with the above limits, combined with the potential to emit PM, PM10, and VOC from other units at the source,** ~~This~~ limits **the** total source wide PM~~, and~~ PM10**, and VOC** emissions each to less than 250 tons per ~~year~~ **twelve (12) consecutive month period and renders 326 IAC 2-2 not applicable**. ~~Therefore, compliance with this limit will render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.~~

D.1.3 Particulate [326 IAC 6-3-2(d)]

Pursuant to 326 IAC 6-3-2(d), particulate from chop resin application guns SG1, SG7, and SG8, and gel coat application booths SG3 and SG5 shall be controlled by a dry particulate filter, and the Permittee shall operate the control device in accordance with manufacturer's specifications**.**

~~D.1.4 Operator Training [326 IAC 20-56-2]~~

~~Pursuant to 326 IAC 20-56-2:~~

~~(a) Each owner or operator shall train all new and existing personnel, including contract personnel, who are involved in resin and gel coat spraying and applications that could result in excess emissions if performed improperly according to the following schedule:~~

~~(1) All personnel hired shall be trained within thirty (30) days of hiring;~~
~~(2) To ensure training goals listed in Condition D.1.4(b) are maintained, all personnel shall be given refresher training annually; and~~
~~(3) Personnel who have been trained by another owner or operator subject to this rule are exempt from Condition D.1.4(a)(1) if written documentation that the employee's training is current is provided to the new employer.~~

~~(b) 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; and~~
~~(3) Appropriate equipment setup and adjustment to minimize material usage and overspray.~~

~~(c) The owner or operator shall maintain the following training records on site and make them available for inspection and review:~~

~~(1) A copy of the current training program;~~
~~(2) A list of the following:~~

~~(A) All current personnel, by name, that are required to be trained; and~~
~~(B) The date the person was trained or date of most recent refresher training, whichever is later.~~

~~(d) Records of prior training programs and former personnel are not required to be maintained.~~

D.1.~~5~~**4** 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 each of these facilities and their control devices. **Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.**

Compliance Determination Requirements

D.1.~~6~~**5** Volatile Organic Compounds (VOC)

Compliance with the VOC emission limitation~~s~~ contained in Condition**s** ~~D.1.1~~ **D.1.2(c) and D.1.2(d)** shall be determined **as follows:** ~~from the manufacturer's Material Safety Data Sheets (MSDS) for each resin, gel coat, catalyst and solvent used in the fiberglass composite manufacturing operations. The VOC emissions for gel coats, resins and catalysts shall be calculated by multiplying the usage of each gel coat, resin and catalyst by the emission factor that is appropriate for the monomer content, method of application, and other emission reduction techniques for each gel coat, resin, and catalyst, and summing the emissions for all gel coats, and resins. Emission factors shall be obtained from the reference approved by IDEM, OAQ.~~

**(a) For the catalysts, mold release agents, and solvents, the VOC emissions shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) by preparing or obtaining from the manufacturer the copies of the "as supplied" and "as applied" VOC data sheets. IDEM, OAQ reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.**

**(b) For the resins and gel coats, the VOC emissions shall be calculated by multiplying the usage of each gel coat and resin by the emission factor provided by the "Unified Emission Factors for Open Molding of Composites", Composites Fabricators Association, July 23, 2001, or its updates in conjunction with the following equation:**

$$E_x = \sum_{i_x=1}^{n_x} \frac{A_i B_i}{2{,}000} \bullet \frac{UEF_i}{2{,}000}$$

**Where:**

| | |
|---|---|
| **E =** | **VOC emissions (ton/month)** |
| **x =** | **Production line number** |
| **n =** | **Number of resin or gel coat materials used during the month** |
| **i =** | **Each type of resin or gel coat** |
| **$A_i$ =** | **Density of resin or gel coat material (lb/gal resin or gel coat)** |
| **$B_i$ =** | **Gallons of resin or gel coat used per month (gal/month)** |
| **$UEF_i$ =** | **Unified Emission Factor for Open Molding of Composites (lb monomer/ton resin or gel coat) based on monomer content (as determined from the manufacturer's material safety data sheet), application technique, and other emission reduction techniques for each resin and gel coat** |
| **2,000 =** | **Conversion factor (2,000 lb/ton)** |

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, or its updates, except use of controlled spray emission factors must be approved by the commissioner. For the purposes of these emission

calculations, monomer in resins and gel coats that is not styrene shall be considered as styrene on an equivalent weight basis.

D.1.~~7~~**6** Particulate Control

In order to comply with Conditions D.1.2**(a), D.1.2(b),** and D.1.3, the dry filters for particulate control shall be in operation and control emissions from chop resin application guns SG1, SG7, and SG8, and gel coat application booths SG3 and SG5, at all times that chop resin application guns SG1, SG7, and SG8, and gel coat application booths SG3 and SG5 are in operation.

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

D.1.~~8~~**7** Monitoring [40 CFR 64]

(a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters for chop resin application guns SG1, SG7, and SG8, and gel coat application booths SG5 and SG3. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the booth stacks (SG1X, SG3X, SG5X, SG7X, SG8X, and SG9X) while one or more of the booths are in operation. ~~If a condition exists which should result in a response step, the Permittee shall take reasonable response steps in accordance with~~ Section C - Response to Excursions or Exceedances **contains the Permittee's obligation with regard to reasonable response steps required by this condition**. Failure to take response steps ~~in accordance with Section C - Response to Excursions or Exceedances,~~ shall be considered a deviation from this permit.

(b) Monthly inspections shall be performed of the coating emissions from the stacks and the presence of overspray on the rooftops and the nearby ground. When there is a noticeable change in overspray emissions, or when evidence of overspray emissions is observed, the Permittee shall take reasonable response steps**.** ~~in accordance with~~ Section C - Response to Excursions or Exceedances **contains the Permittee's obligation with regard to the reasonable response steps required by this condition**. Failure to take response steps ~~in accordance with Section C - Response to Excursions or Exceedances,~~ shall be considered a deviation from this permit.

Compliance with these requirements satisfies the requirements of 40 CFR 64 (CAM) for chop resin application guns SG1, SG7, and SG8, and gel coat application booth SG5.

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

D.1.~~9~~**8** Record Keeping Requirements

~~(a) To document compliance with Condition D.1.1 the Permittee shall maintain records in accordance with (1) through (3) below. Records maintained for (1) through (3) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC emission limits established in Condition D.1.1. Records necessary to demonstrate compliance shall be available within 30 days of the end of each compliance period.~~

~~(1) The amount and VOC content of each gel coat, resin, catalyst and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used.~~

~~(2) The total VOC usage for each month; and~~

~~(3) The weight of VOCs emitted for each compliance period.~~

**(a)**~~(b)~~ To document **the** compliance **status** with Condition **D.1.1(b),** ~~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.

**(b) To document the compliance status with Conditions D.1.2(c) and D.1.2(d), the Permittee shall maintain records in accordance with (1) and (2) below. Records maintained for (1) and (2) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC emission limits established in Conditions D.1.2(c) and D.1.2(d). Records necessary to demonstrate compliance shall be available within 30 days of the end of each compliance period.**

**(1) For coating material and solvent use other than monomer-based gel coats and resins:**

**(A) The VOC content of each coating material and solvent used.**

**(B) The amount of coating and solvent used on a monthly basis.**

**(i) Records shall include purchase orders, invoices, and material safety data sheets as necessary to verify the type and amount used.**

**(ii) Solvent usage records shall differentiate between those added to coatings and those added as cleanup solvents.**

**(C) The total VOC usage for each month.**

**(2) For monomer-based gel coats and resins:**

**(A) The monomer content of each resin and gel coat used.**

**(B) The amount of gel coat and resin used on a monthly basis. Records shall include purchase orders, invoices, and material safety data sheets as necessary to verify the type and amount used.**

**(C) The method of application and other emission reduction techniques for each resin and gel coat used.**

**(D) Monthly calculations, as described in Condition D.1.5(b), demonstrating the weight of VOC emitted from resin and gel coat use each month.**

(c) To document **the** compliance **status** with Conditions **D.1.3 and D.1.7**~~D.1.8 and D.1.9~~ the Permittee shall maintain a log of weekly overspray observations, and daily and monthly inspections. The Permittee shall include in its record when a weekly overspray observation, daily inspection~~s and~~**, or** monthly inspection notation is not taken and the reason for the lack of weekly overspray observation, daily inspection~~s and~~**, or** monthly inspection notation (e.g. the process did not operate that day).

(d) ~~All records shall be maintained in accordance with~~ Section C - General Record Keeping Requirements, of this permit **contains the Permittee's obligation with regard to the records required by this condition**.

D.1.~~10~~**9** Reporting Requirements

A quarterly summary of the information to document **the** compliance **status** with Conditions ~~D.1.1~~**D.1.2(c) and D.1.2(d)** 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~~**its** equivalent, ~~within~~ **not later than** thirty (30) days after the end of the quarter being

reported. **Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition.** The report submitted by the Permittee does require ~~the~~ **a** certification **that meets the requirements of 326 IAC 2-7-6(1)** by a~~n~~ "responsible official" as defined by 326 IAC 2-7-1(34).

~~National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements [326 IAC 2-7-5(1)]~~

~~D.1.11 General Provisions Relating to NESHAP [326 IAC 20-1] [40 CFR Part 63, Subpart A]~~

~~(a) Pursuant to 40 CFR 63.5925, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1-1, as specified in Table 15 of 40 CFR Part 63, Subpart WWWW in accordance with schedule in 40 CFR 63 Subpart WWWW.~~

~~(b) Pursuant to 40 CFR 63.10, the Permittee shall submit all required notifications and reports to:~~

~~Indiana Department of Environmental Management~~
~~Compliance Branch, Office of Air Quality~~
~~100 North Senate Avenue~~
~~MC 61-53 IGCN 1003~~
~~Indianapolis, Indiana 46204-2251~~

~~D.1.12 National Emissions Standards for Hazardous Air Pollutants for Reinforced Plastic Composites Production: Requirements [40 CFR Part 63, Subpart WWWW] [326 IAC 20-56]~~

~~Pursuant to CFR Part 63, Subpart WWWW, the Permittee shall comply with the provisions of 40 CFR Part 63.5780, as specified as follows:~~

***[Note: the applicable provisions of 40 CFR 63, Subpart WWWW, as listed in Part 70 Operating Permit Renewal No. T085-18852-00077, have been removed, but the deleted language is not being shown with strikethroughs in this TSD.]***

~~D.1.13 One Time Deadlines Relating to NESHAP WWWW~~

~~(a) The Permittee must conduct the performance tests, performance evaluations, design evaluations, capture efficiency testing, and other initial compliance demonstrations by April 21, 2006.~~

~~(b) The Permittee must submit a notification of compliance status no later than the dates specified in § 63.9(b)(2) following the completion of the compliance demonstration.~~

## SECTION E.1 SOURCE OPERATION CONDITIONS - NESHAP, Subpart WWWW

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

**(a) One (1) fiberglass production line, identified as Line 1, installed in February 1998, with a maximum production rate of 15 fiberglass units per hour, including:**

**(1) One (1) chop resin application booth, consisting of one (1) non-atomized fluid impingement chop gun, identified as SG1, exhausting to one (1) stack identified as SG1X. The booth is also equipped with dry filters for particulate control.**

**(2) One (1) gel coat application booth, identified as SG3, consisting of two (2) stationary non-atomized fluid impingement applicators, installed in February 1998, and two (2) portable non-atomized fluid impingement applicators, installed in 2003, using a maximum of two applicators at a time, exhausting to one (1) stack identified as SG3X. The booth is also equipped with dry filters for particulate control.**

**(b) One (1) fiberglass production line, identified as Line 2, installed in July 1999, with a maximum production rate of 30 fiberglass units per hour, including:**

**(1) One (1) chop resin application booth, consisting of two (2) non-atomized fluid impingement chop guns, identified as SG7 and SG8, producing up to 30 fiberglass units per hour per gun, and exhausting to three (3) stacks identified as SG7X, SG8X and SG9X. The booth is also equipped with dry filters for particulate control.**

**(2) One (1) gel coat application booth, identified as SG5, consisting of two (2) stationary non-atomized fluid impingement applicators and two (2) portable non-atomized fluid impingement applicators, using two applicators at a time, exhausting to one (1) stack identified as SG5X. The booth is also equipped with dry filters for particulate control.**

**(c) Cleaners and solvents characterized as follows:**

**(1) having a vapor pressure equal to or less than 2 kPa; 15mm Hg; or 0.3 psi measured at 38°C (100°F) or;**

**(2) having a vapor pressure equal to or less than 0.7 kPa; 5mm Hg; or 0.1 psi measured at 20°C (68°F);**

**the use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months.** [40 CFR Part 63, Subpart WWWW] [326 IAC 20-56] [326 IAC 20-81];

**(d) Mold release agents using low volatile products (vapor pressure less than or equal to 2 kilopascals (kPa) measured at 38 degrees C).** [40 CFR Part 63, Subpart WWWW] [326 IAC 20-56]; and

**(e) Other activities and categories with emissions below insignificant thresholds:**

**(1) One (1) Mold Repair area, constructed in 1998, using a brush and/or an aerosol sprayer dipped in Dixie Cup of resin or gel coat for minor gel coat mixing and touch-up of resin and gel coat** [40 CFR Part 63, Subpart WWWW] [326 IAC 20-56];

**(2) One (1) minor touch-up repair using aerosol cans** [40 CFR Part 63, Subpart WWWW] [326 IAC 20-56];

**(3) Two (2) resin mix tank for mixing resin with inert ingredients** [40 CFR Part 63, Subpart WWWW] [326 IAC 20-56];

(4) One (1) minor usage of sealers, buffing compounds, waxes, primers, and wood glues [40 CFR Part 63, Subpart WWWW] [326 IAC 20-56];

**Under 40 CFR 63, Subpart WWWW, this reinforced plastic composites production plant is considered an existing affected source.**

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

**E.1.1 General Provisions Relating to NESHAP WWWW [326 IAC 20-1] [40 CFR Part 63, Subpart A]**

**Pursuant to 40 CFR 63.5925, the Permittee shall comply with the provisions of 40 CFR Part**

**63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1-1, as specified in Table 15 of 40 CFR Part 63, Subpart WWWW in accordance with schedule in 40 CFR 63 Subpart WWWW.**

**E.1.2 Reinforced Plastic Composites Production NESHAP [40 CFR Part 63, Subpart WWWW]**

**The Permittee which engages in reinforced plastic composites production shall comply with the following provisions of 40 CFR Part 63, Subpart WWWW (included as Attachment A of this permit), with a compliance date of April 21, 2006:**

**(1) 40 CFR 63.5780**
**(2) 40 CFR 63.5785(a)**
**(3) 40 CFR 63.5790**
**(4) 40 CFR 63.5795**
**(5) 40 CFR 63.5796**
**(6) 40 CFR 63.5797**
**(7) 40 CFR 63.5798**
**(8) 40 CFR 63.5799(b) and (c)**
**(9) 40 CFR 63.5800**
**(10) 40 CFR 63.5805(b) and (g)**
**(11) 40 CFR 63.5810**
**(12) 40 CFR 63.5835(a) and (c)**
**(13) 40 CFR 63.5840**
**(14) 40 CFR 63.5860(a)**
**(15) 40 CFR 63.5895(b), (c) and (d)**
**(16) 40 CFR 63.5900(a)(2)(3)(4), (b) and (c)**
**(17) 40 CFR 63.5905**
**(18) 40 CFR 63.5910(a), (b), (c), (d), (g), (h) and (i)**
**(19) 40 CFR 63.5915(a), (c) and (d)**
**(20) 40 CFR 63.5920**
**(21) 40 CFR 63.5925**
**(22) 40 CFR 63.5930**
**(23) 40 CFR 63.5935**
**(24) Table 1 to Subpart WWWW of Part 63**
**(25) Table 2 to Subpart WWWW of Part 63**
**(26) Table 3 to Subpart WWWW of Part 63**
**(27) Table 4 to Subpart WWWW of Part 63**
**(28) Table 7 to Subpart WWWW of Part 63**
**(29) Table 8 to Subpart WWWW of Part 63**
**(30) Table 9 to Subpart WWWW of Part 63**
**(31) Table 13 to Subpart WWWW of Part 63**
**(32) Table 14 to Subpart WWWW of Part 63**
**(33) Table 15 to Subpart WWWW of Part 63**

**Change No. 4**

The following changes have been made to the forms at the end of the permit:

(a) IDEM, OAQ has decided to remove all references to the source mailing address. IDEM, OAQ will continue to maintain records of the mailing address.

(b) IDEM, OAQ has decided to remove the last sentence dealing with the need for certification from the forms because the Conditions requiring the forms already address this issue.

(c) The phrase "of this permit" has been added to the paragraph of the Quarterly Deviation and Compliance Monitoring Report to match the underlying rule.

(d) References to "Compliance Branch" and "Compliance Data Section" have been updated to "Compliance and Enforcement Branch".

(e) The quarterly reporting forms for reporting the resin usage related to the previous BACT requirements were removed and new quarterly reporting forms for the PSD minor limits for VOC were added to the permit.

## Conclusion and Recommendation

The operation of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Source Modification No. 085-28953-00077 and Significant Permit Modification No. 085-28963-00077. The staff recommend to the Commissioner that this Part 70 Significant Source and Significant Permit Modification be approved.

# Indiana Department of Environmental Management
# Office of Air Quality

## TSD Appendix A
## State Best Available Control Technology (BACT) Analysis

**Source Background and Description**

| | |
|---|---|
| Source Name: | Frontline Manufacturing, Inc. |
| Source Location: | 2466 North, 200 West, Warsaw, Indiana 46580 |
| County: | Kosciusko |
| SIC Code: | 3088 |
| Operation Permit Renewal No.: | T085-18852-00077 |
| Operation Permit Issuance Date: | December 31, 2007 |
| Significant Source Modification No.: | 085-28953-00077 |
| Significant Permit Modification No.: | 085-28963-00077 |
| Permit Reviewer: | Laura Spriggs |

**326 IAC 8-1-6 State BACT Re-evaluation Request**

On February 8, 2010, the Office of Air Quality (OAQ) received an application from Frontline Manufacturing, Inc., located at 2466 North, 200 West, Warsaw, Indiana, in Kosciusko County requesting a re-evaluation of the 326 IAC 8-1-6 State BACT determination for the following units:

(a) One (1) fiberglass production line, identified as Line 1, installed in February 1998, with a maximum production rate of 15 fiberglass units per hour, including:

(1) One (1) chop resin application booth, consisting of one (1) non-atomized fluid impingement chop gun, identified as SG1, exhausting to one (1) stack identified as SG1X. The booth is also equipped with dry filters for particulate control.

(2) One (1) gel coat application booth, identified as SG3, consisting of two (2) stationary non-atomized fluid impingement applicators, installed in February 1998, and two (2) portable non-atomized fluid impingement applicators, installed in 2003, using a maximum of two applicators at a time, exhausting to one (1) stack identified as SG3X. The booth is also equipped with dry filters for particulate control.

(b) One (1) fiberglass production line, identified as Line 2, installed in July 1999, with a maximum production rate of 30 fiberglass units per hour, including:

(1) One (1) chop resin application booth, consisting of two (2) non-atomized fluid impingement chop guns, identified as SG7 and SG8, producing up to 30 fiberglass units per hour per gun, and exhausting to three (3) stacks identified as SG7X, SG8X and SG9X. The booth is also equipped with dry filters for particulate control.

(2) One (1) gel coat application booth, identified as SG5, consisting of two (2) stationary non-atomized fluid impingement applicators and two (2) portable non-atomized fluid impingement applicators, using two applicators at a time, exhausting to one (1) stack identified as SG5X. The booth is also equipped with dry filters for particulate control.

**Existing 326 IAC 8-1-6 BACT Determinations for Frontline Manufacturing, Inc.**

(a) Pursuant to CP 085-8900-00077, issued on February 17, 1998, and First Administrative Amendment No. 085-17139-00077, issued on February 10, 2003, and as updated in Part 70 Operating Permit Renewal No. T085-18852-00077, issued on December 31, 2007, compliance with 326 IAC 8-1-6 (New Facilities: General Reduction Requirements) shall be achieved with the best available control technology (BACT) for the Chop Spray Gun (SG1) and gel coat application booth (SG3) as follows:

(1) The total resin input shall be limited to 535.71 tons per twelve (12) consecutive month period to the one (1) Chop Spray Guns (SG1). The non vapor suppressed (NVS) resin shall not exceed 5.6 percent flash off.

(2) The total resin input shall be limited to 115.65 tons per twelve (12) consecutive month period to the gel coat application booth (SG3). The non vapor suppressed (NVS) resin shall not exceed 14.7 percent flash off.

(3) Use of resins and gel coats shall be limited such that the potential to emit (PTE) volatile organic HAP from resins and gel coats only shall be less than 47 tons, per twelve (12) consecutive months.

(4) Resins and gel coats used, including filled resins and tooling resins and gel coats, shall be limited to maximum monomer contents of thirty-five percent (35%) by weight for resins, thirty-seven percent (37%) 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.

The use of resins with monomer contents lower than 35%, gel coats with monomer contents lower than 37%, and/or additional emission reduction techniques approved by IDEM, OAQ, may be used to offset the use of resins with monomer contents higher than 35%, and/or gel coats with monomer contents higher than 37%. Examples of other techniques include, but are not limited to, lower monomer content resins and gel coats, closed molding, vapor suppression, vacuum bagging, controlled spraying, or installing a control device with an overall reduction efficiency of 95%. This is allowed to meet the monomer 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) $\leq$ (Emissions from 35% resin or 37% gel coat) - (Emissions from <35% resin, <37% gel coat, and or other emission reduction techniques).

Where: Emissions, lb or ton = M (mass of resin or gel coat used, lb or ton) * EF (Monomer emission factor for resin or gel cat used, %):

EF, Monomer emission factor = emission factor, expressed as % styrene emitted per weight of resin applied, which is indicated by the monomer content, method of application, and other emission reduction techniques for each gel coat and resin used.

(5) Flow coaters, a type of non-spray application technology of a design and specifications to be approved by IDEM, OAQ, shall be used in the following manner:

(A) to apply 50% of all neat resins within 6 months of commencement of operation.

(B) to apply 100% of all neat resins used within 1 year of commencement of operation.

If, after 1 year of operation it is not possible to apply a portion of neat resins with flow coaters, equivalent emissions reductions must be obtained via use of other techniques elsewhere in the process.

(6) Optimized spray techniques according to a manner approved by IDEM 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 coating 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.

(7) The listed work practices shall be followed:

(A) To the extent possible, a non-VOC, non-HAP solvent shall be used for cleanup.

(B) Cleanup solvent containers used to transport solvent from drums to work stations shall be closed containers having soft gasketed spring-loaded closures.

(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.

(F) Storage containers used to store VOC- and/or HAP- containing materials shall be kept covered when not in use.

(b) Pursuant to Significant Source Modification 085-10774-00077, issued July 22, 1999, and the BACT determination under 326 IAC 8-1-6, operating conditions for the gel coat application booth, identified as (SG5), and two (2) chop spray guns, identified as (SG7 and SG8) 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 only shall be less than 100 tons, per twelve (12) consecutive months, based on the following:

(A) The total resin input shall be limited to 153.06 tons per twelve (12) consecutive month period to the gel coat application booth (SG5). Gel coats shall not exceed 14.7 percent flash off.

(B) The total unsaturated polyester resin input shall be limited to 438.8 tons per twelve (12) consecutive month period to each of the two (2) Chop Spray Guns (SG7 and SG8). Unsaturated polyester resin shall not exceed 4.17 percent flash off.

(2) Resins and gel coats used, including filled resins and tooling resins and gel coats, shall be limited to maximum monomer contents of thirty-five percent (35%) by weight for resins, thirty-seven percent (37%) 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.

The use of resins with monomer contents lower than 35%, gel coats with monomer contents lower than 37%, and/or additional emission reduction techniques approved by IDEM, OAQ, may be used to offset the use of resins with monomer contents higher than 35%, and/or gel coats with monomer contents higher than 37%. Examples of other techniques include, but are not limited to, lower monomer content resins and gel coats, closed molding, vapor suppression, vacuum bagging, controlled spraying, or installing a control device with an overall reduction efficiency of 95%. This is allowed to meet the monomer 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) $\leq$ (Emissions from 35% resin or 37% gel coat) - (Emissions from <35% resin, <37% gel coat, and or other emission reduction techniques).

Where: Emissions, lb or ton = M (mass of resin or gel coat used, lb or ton) * EF (Monomer emission factor for resin or gel cat used, %):

EF, Monomer emission factor = emission factor, expressed as % styrene emitted per weight of resin applied, which is indicated by the monomer content, method of application, and other emission reduction techniques for each gel coat and resin used.

(3) Flow coaters, a type of non-spray application technology of a design and specifications to be approved by IDEM, OAQ, shall be used in the following manner:

(A) to apply 50% of all neat resins within 6 months of commencement of operation.

(B) to apply 100% of all neat resins used within 1 year of commencement of operation.

If, after 1 year of operation it is not possible to apply a portion of neat resins with flow coaters, equivalent emissions reductions must be obtained via use of other techniques elsewhere in the process.

(4) Optimized spray techniques according to a manner approved by IDEM 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 coating 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.

(5) The listed work practices shall be followed:

(A) To the extent possible, a non-VOC, non-HAP solvent shall be used for cleanup.

(B) Cleanup solvent containers used to transport solvent from drums to work stations shall be closed containers having soft gasketed spring-loaded closures.

(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.

(F) Storage containers used to store VOC- and/or HAP- containing materials shall be kept covered when not in use.

**Regulatory Background and Requirement for Best Available Control Technology**

The original state BACT analyses, pursuant to 326 IAC 8-1-6, were completed in 1998 for SG1 and SG3 and in 1999 for SG5, SG7, and SG8. At this time, there were very few consistent regulatory control measures that existed for limiting the monomer volatile organic hazardous air pollutant (VHAP) contents of materials in reinforced plastic composites operations. On April 21, 2003, the U.S. EPA promulgated the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Reinforced Plastic Composites Production, 40 CFR 63, Subpart WWWW. Although this NESHAP is intended to regulate HAP emissions for reinforced plastic composites production, styrene (a VHAP) constitutes nearly all if not all of the VOC emissions associated with the resin and gel coat application booths at Frontline Manufacturing, Inc.

On February 14, 2005, the provisions of 40 CFR 63, Subpart WWWW were incorporated by reference into the Indiana Administrative Code as 326 IAC 20-56, which includes additional operator training requirements. On May 26, 2006, 326 IAC 8-1-6, the rule governing the State VOC BACT requirement, was revised to exclude sources that are subject to 326 IAC 20-56 from the requirements of 326 IAC 8-1-6.

New reinforced plastic composites production facilities, after May 26, 2006, that have potential VOC emissions of twenty-five (25) tons or more per year, are therefore not subject to the requirements of 326 IAC 8-1-6. However, pursuant to 326 IAC 8-1-1(a), once a facility becomes subject to a rule within 326 IAC 8, such facility shall remain subject to such rule unless the

Commissioner exempts the facility or a federally-approved SIP revision restricts actual VOC emissions to less than fifteen (15) pounds per day.

On April 2, 2007, Frontline Manufacturing, Inc. was granted a one-year variance from their 326 IAC 8-1-6 requirements, which was renewed in 2008 and 2009. The variance was granted with the understanding that IDEM was working on a rulemaking to allow existing sources, such as Frontline Manufacturing, Inc. an opportunity to request an exemption from 326 IAC 8-1-6 through a permit modification and instead to comply with 326 IAC 20-56. IDEM has learned, however, that the U.S. EPA will not federally approve such proposed rule amendments to 326 IAC 8-1-6, so IDEM will not move forward with the rulemaking and is unable to grant a variance from 326 IAC 8-1-6 any longer.

Because 326 IAC 8-1-6 was applicable to the resin and gel coat booths at Frontline Manufacturing, Inc. in 1998 and 1999 and BACT requirements were determined pursuant to 326 IAC 8-1-6, the facilities cannot now be excluded from 326 IAC 8-1-6 requirements. BACT can, however, be re-evaluated for the source based on a current evaluation of these types of operations, which has been accomplished through this BACT analysis.

326 IAC 8-1-6 is applicable to “facilities”. A facility can either be a single emission unit or group of units, such as a surface coating line. This evaluation is being conducted on two facilities (the two production lines). The first line consists of SG1 and SG3 and the second line consists of SG5, SG7, and SG8.

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## Summary of the Best Available Control Technology (BACT) Process

Best Available Control Technology (BACT) is defined as "an emissions limitation, including a visible emissions standard, based on the maximum degree of reduction for each regulated NSR pollutant that would be emitted from any proposed major stationary source or major modification, that the commissioner, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for the source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of the pollutant. In no event shall application of best available control technology result in emissions of any pollutant that would exceed the emissions allowed by any applicable standard under 40 CFR Part 60 and 40 CFR Part 61. If the commissioner determines that technological or economic limitations on the application of measurement methodology to a particular emissions unit would make the imposition of an emissions standard not feasible, a design, equipment, work practice, operational standard, or combination thereof may be prescribed instead to satisfy the requirements for the application of best available control technology. The standard shall, to the degree possible, set forth the emissions reduction achievable by implementation of the design, equipment, work practice, or operation and shall provide for compliance by means that achieve equivalent results."

Federal guidance on BACT requires an evaluation that follows a “top down” process, consisting of five (5) steps. The Office of Air Quality (OAQ) makes BACT determinations by following the five (5) steps as outlined below.

*Step 1: Identify Potential Control Technologies*

The first step is to identify potentially "available" control options for each emission unit and for each pollutant under review. Available options should consist of a comprehensive list of those technologies with a potentially practical application to the emissions unit and the regulated pollutant under evaluation. The list should include lowest achievable emission rate (LAER) technologies, innovative technologies, and controls applied to similar source categories. There is no requirement in the State or Federal regulations to require innovative control to be used as BACT.

*Step 2: Eliminate Technically Infeasible Options*

The second step is to eliminate technically infeasible options from further consideration. To be considered feasible, a technology must be both available and applicable. It is important in this step that any presentation of a technical argument for eliminating a technology from further consideration be clearly documented based on physical, chemical, engineering, and source-specific factors related to safe and successful use of the controls. Innovative control means a control that has not been demonstrated in a commercial application on similar units. Innovative controls are normally given a waiver from the BACT requirements due to the uncertainty of actual control efficiency. Based on this, the OAQ will not evaluate or require any innovative controls for this BACT analysis. Only available and proven control technologies are evaluated. A control technology is considered available when there are sufficient data indicating that the technology results in a reduction in emissions of regulated pollutants.

*Step 3: Rank the Remaining Control Technologies by Control Effectiveness*

The third step is to rank the technologies not eliminated in Step 2 in order of descending control effectiveness for each pollutant of concern. The ranked alternatives are reviewed in terms of control effectiveness, expected emission rate, expected emission reduction, and environmental, energy, and economic impacts specific to the proposed modification. If the analysis determines that the evaluated alternative is not appropriate as BACT due to any of the impacts, then the next most effective is evaluated. This process is repeated until a control alternative is chosen as BACT. If the highest ranked technology is proposed as BACT, it is not necessary to perform any further technical or economic evaluation, except for the environmental analyses.

*Step 4: Evaluate the Most Effective Controls and Document the Results*

The fourth step entails an evaluation of energy, environmental, and economic impacts for determining a final level of control. The evaluation begins with the most stringent control option and continues until a technology under consideration cannot be eliminated based on adverse energy, environmental, or economic impacts.

*Step 5: Select BACT*

The fifth and final step is to select as BACT the most effective of the remaining technologies under consideration for each pollutant of concern. For the technologies determined to be feasible, there may be several different limits that have been set as BACT for the same control technology. The permitting agency has to choose the most stringent limit as BACT unless the applicant demonstrates in a convincing manner why that limit is not feasible. The final BACT determination would be the technology with the most stringent corresponding limit that is economically feasible. BACT must, at a minimum, be no less stringent than the level of control required by any applicable New Source Performance Standard (NSPS) and National Emissions Standard for Hazardous

Air Pollutants (NESHAP) or state regulatory standards applicable to the emission units included in the permits.

This BACT determination is based on the following information:

(1) The EPA RACT/BACT/LAER (RBLC) Clearinghouse;

(2) EPA and State air quality permits;

(3) Communications with control device equipment manufacturers; and

(4) Technical books and articles.

## VOC BACT - Open Molding: Resin and Gel Coat Booths

Frontline Manufacturing, Inc. engages in the production of fiberglass bathroom products through two production lines. The process used for production is a spray layup open mold process using non-atomized fluid impingement chop guns and applicators. VOC emissions from the resin and gel coat application booths result from the chop and gel resins, catalyst and mold release, and exist almost entirely as styrene emissions (the cross-linking monomer).

VOCs result from the evaporation of monomer (styrene) from the uncured resin during resin application and curing. Emissions vary based on the amount of resin surface exposed to the air, the amount of time of exposure, other production factors, and resin monomer content.

### Step 1 – Identify Potential Control Options

The following available technologies were identified and evaluated for VOC control for the open molding processes at Frontline Manufacturing, Inc:

***Thermal Oxidation***
Thermal Oxidation is a process by which volatile organic compounds are destroyed through oxidation at very high temperatures (greater than 1400 °F). An efficient thermal oxidizer design must provide adequate residence time for complete combustion, sufficiently high temperatures for VOC destruction, and adequate velocities to ensure proper mixing without quenching combustion. Natural gas is required to ignite the flue gas mixtures and maintain combustion temperatures. The heat given off in the oxidation reaction is returned to the system to minimize fuel costs. The two main methods in which the heat is returned to the system are categorized as regenerative and recuperative thermal oxidation processes.

Regenerative thermal oxidation uses certain ceramic beds to capture heat from the combustion gasses. As a ceramic bed reaches combustion temperatures, the bed is used to preheat the incoming gas stream while the new ceramic bed is used to capture heat within the exhaust gasses.

Recuperative thermal oxidation uses a simple heat exchanger to recover heat within the exhaust gasses and preheat the inlet gases. In some systems, a concentrator is used prior to the thermal oxidizer inlet in order to concentrate the incoming gases such that less volume of gas is routed to the thermal oxidizer. Concentrators are useful when the volume of incoming gas is large but the VOC concentration is low.

Thermal oxidizers can achieve 95-99.99+% VOC control efficiency and can be used over a wide range of organic vapor concentrations. but perform best at inlet concentrations of

around 1,500-3,000 ppmv and are better suited for gas streams with low variability in air flow. While thermal oxidation provides efficient VOC control, other pollutants such as nitrogen oxides and carbon monoxide are formed from the combustion process.

***Catalytic Oxidation***
Catalytic oxidation is a process in which volatile organic compounds are destroyed through oxidation at a much lower temperature (550 °F) than thermal oxidation. In a catalytic oxidizer, a catalyst is used to lower the activation energy for oxidation so that the oxidation reaction occurs at a much lower temperature. When a preheated gas stream is passed through a catalytic oxidizer, the catalyst bed initiates and promotes the oxidation of the VOC without being permanently altered itself. However, steps must be taken to ensure complete combustion. The types of catalysts used include platinum, platinum alloys, copper chromate, copper oxide, chromium, manganese, and nickel.

Catalytic oxidizers may use regenerative or recuperative processes to reuse waste heat to preheat the incoming gas stream. Catalytic oxidizers may also use a concentrator to concentrate the inlet gas stream, thereby reducing the energy requirements. Depending on the oxidizer design, VOC control efficiencies of 90-99% can be achieved. Catalytic oxidation is best suited to systems with lower exhaust volumes, when there is little variation in the type and concentration of VOC, and where fouling contaminants such as silicone, sulfur, heavy hydrocarbons, and particulates are not present. The lower combustion temperature means that less supplemental fuel is required, so combustion emissions are potentially lower than with thermal oxidation.

***Flares***
Flaring is used to control VOC emissions by piping VOCs to a remote, usually elevated location and burning them in a flame using a specially designed burner tip, auxiliary fuel, and steam or air to promote mixing for nearly complete (> 98%) VOC destruction. Flares can be used to control almost any VOC stream, and can typically handle large fluctuations in VOC concentration, flow rate, heating value, and inert species content. While flares are designed to eliminate waste gas streams, they can cause safety and operational problems and the exhaust stream concentration must be high enough to sustain combustion. They can be a source of SOx, NOx, and CO and are not recommended to treat waste streams with halogenated compounds.

***Carbon Adsorption***
Adsorption is a surface phenomenon where attraction between carbon and VOC molecules binds the pollutants to the carbon surface. Both carbon and VOC are chemically intact after adsorption. The VOCs may be removed or desorbed from the carbon and reclaimed or destroyed. Adsorption can be used for relatively low VOC exhaust streams. Industrial applications of adsorption systems include control for dry cleaning, degreasing, paint spraying, solvent extraction, metal foil coating, paper coating, plastic film coating, printing, pharmaceuticals, rubber, linoleum, and transparent wrapping. Particulate matter present in gas streams can reduce adsorber efficiency, increase pressure drop, and eventually plug the bed. Most industrial adsorption systems use some type of particulate matter pre-treatment. In general adsorption decreases with increasing temperatures, relative humidity greater than 50% can reduce carbon capacity, and entrained liquid can cause operating problems. VOC removal efficiencies of 95-99% can be achieved.

***Condensation***
Condensation is the separation of VOCs from an emission stream through a phase change, by either increasing the system pressure or, more commonly, lowering the system temperature below the dew point of the VOC vapor. When condensers are used for air pollution control, they usually operate at the pressure of the emission stream, and typically require a refrigeration unit to obtain the temperature necessary to condense the

VOCs from the emission stream. These systems are frequently used prior to other control devices (e.g., oxidizers or absorbers) to remove components that may be corrosive or damaging to other parts of the system. Refrigerated condensers are used as air pollution control devices for treating emission streams with high VOC concentrations (usually > 5,000 ppmv). Some industrial applications where refrigerated condensers are used include the dry cleaning industry, degreasers using VOC or halogenated solvents, transfer of volatile organic liquid or petroleum products, and vapors from storage vessels. VOC removal efficiencies may be in the 90-99% range.

***Use of Alternative Materials and Application Techniques***
The use of alternative materials or application techniques may provide some reduction in VOC emissions. However, Frontline Manufacturing, Inc. already uses resins and gel coats that are in compliance with the requirements of the National Emission Standards for Hazardous Air Pollutants for Reinforced Plastic Composites Production. The application technique currently used is non-atomized fluid impingement application, which minimizes HAP emissions.

***Review of Existing BACT Determinations***
The U.S. EPA RBLC was reviewed to identify control requirements and limitations for fiberglass open molding processes. The table below summarizes these VOC BACT determinations as provided by the RBLC, as well as other IDEM permits. The search was limited from January 2000 to January 2010.

| Facility: County, State | RBLC ID/Permit # (Issuance Date) | Process | Pollutant: Control, Emission Limits | Control Efficiency | Basis |
|---|---|---|---|---|---|
| ***Frontline Manufacturing, Inc. Summary of Existing 326 IAC 8-1-6 BACT*** | | | | | |
| Frontline Manufacturing, Inc.: Kosciusko, IN | 085-8900-00077 (2/17/1998) | SG1-Chop Resin Application Booth (non-atomized fluid impingement) | • Maximum monomer content of 35 wt% resin and 37 wt% gel coat (monthly basis)<br>• Optimized spray techniques<br>• Total resin input limited to 535.71 tons per year, non vapor suppressed resin shall not exceed 5.6% flash off for SG1<br>• Total resin input limited to 115.65 tons per year, non vapor suppressed resin shall not exceed 14.7% flash off for SG3<br>• Total volatile organic HAP from SG1 and SG3 shall be less than 47 tons per year<br>• Work practice standards | | |
| | 085-8900-00077 (2/17/1998) | SG3-Gel Coat Application Booth (non-atomized fluid impingement) | | | |
| | 085-10774-00077 (7/22/1999) | SG5-Gel Coat Application Booth (non-atomized fluid impingement) | • Maximum monomer content of 35 wt% resin and 37 wt% gel coat (monthly basis)<br>• Total resin input limited to 153.06 tons per year, non vapor suppressed resin shall not exceed 14.7% flash off for SG5<br>• Total resin input limited to 438.8 tons per year, non vapor suppressed resin shall not exceed 4.17% flash off for SG7&8<br>• Total volatile organic HAP from SG5, SG7, and SG8 shall be less than 100 tons per year<br>• Work practice standards | | |
| | 085-10774-00077 (7/22/1999) | SG7&8-Chop Resin Application Booth (non-atomized fluid impingement) | | | |
| ***Proposed 326 IAC 8-1-6 BACT*** | | | | | |
| Frontline Manufacturing, Inc.: Kosciusko, IN | 085-28953-00077 | Line 1 (SG1-Chop Resin Application Booth and SG3-Gel Coat Application Booth) | • Compliance with 40 CFR 63, Subpart WWWW<br>• Compliance with the Operator Training Requirements in 326 IAC 20-56-2 | | |
| | | Line 2 (SG5-Gel Coat Application Booth, SG7 and SG8-Chop Resin Application Booths) | • Compliance with 40 CFR 63, Subpart WWWW<br>• Compliance with the Operator Training Requirements in 326 IAC 20-56-2 | | |
| ***Other Recent BACT Determinations*** | | | | | |
| Lasco Bathware: Cark, NV (bathware manufacturing facility) | NV-0043 / 75 (10/25/2006) | Open Molding with Emission Control | VOC: Concentrators, Adsorption, and RTO to Desorb and Incinerate, 14.84 lb/hr | 95% | PSD-BACT |

| Facility: County, State | RBLC ID/Permit # (Issuance Date) | Process | Pollutant: Control, Emission Limits | Control Efficiency | Basis |
|---|---|---|---|---|---|
| Amerimax Building Products, Inc.: Allen, IN (fiberglass-reinforced panel manufacturing) | F003-22556-00340 (4/19/2006) | Mold Release Application Area (EU-MR), Gel Coat Reciprocator (EU-GELCOAT), 3 resin reciprocators (EU-RESIN) | VOC: concentrator/catalytic oxidizer system; fiberglass-reinforced panel manufacturing shall be done in an enclosed area; 99 ton/yr; use of automated reciprocators | 95% | State BACT |
| Summit Fiberglass Inc: Elkhart, IN (fiber reinforced plastic composite parts manufacturing) | 039-19809-00067 (4/14/2005) | Fiberglass reinforced plastic component manufacturing operations (Production Line 2) | VOC: 39.5 ton/yr; gel coat maximum monomer content of 37%; non-atomized spray, HVLP, or equivalent | N/A | State BACT |
| Chaparral Boats, Inc.: Berrien, GA (fiberglass boat manufacturing) | GA-0110 / 3732-019-0003-V-02-3 (4/7/2005) | Resin and Gel Coat Operations at Plant 3 (open molding using gel coat and styrene-based resin) | VOC: Low VOC gel coats and resins (28% VOC atomized resin, 48% VOC clear gel coat, 35% VOC for nonatomized resin, 33% for pigmented gel coat); provisions of 40 CFR 63, Subpart VVVV to control VOC Emissions | N/A | PSD-BACT |
| Crane Composites, Inc. - South Plant: Elkhart, IN (fiberglass panel manufacturing) | CP 039-12284-00002 (10/13/2000), 039-17700-00002 (11/20/2003), 039-18917-00002 (9/1/2004) | Fiberglass Panel Manufacturing Lines A, B, C | VOC: 249 ton/yr for A and B; 129.6 ton/yr for C; monomer content limits (36% for open molding production gel coat, 35% for open molding production resin, 40% for VIP production resin); non-atomized spray or equivalent; optimized spray techniques; work practices | N/A | State BACT |
| Sea-Pro Boats: Newberry, SC (boat manufacturing) | SC-0086 / 1780-0031 (6/15/2004) | Fiberglass Boat Manufacturing | VOC: Limit VOC content in gel coats and resin (35% for production resin, 33% for pigmented gel coat, 48% for clear gel coat, 39% for tooling resin, 40% for tooling gel coat); no emission limit | N/A | LAER |
| Better Way Partners, LLC: Elkhart, IN (fiberglass parts manufacturing) | 039-17869-00141 (10/9/2003) | Gel Coat Booth (P1-G1) and Resin Booth (P1-R) | VOC: 228 ton/yr; maximum styrene content of 60%; work practice standards; operator training | N/A | State BACT |
| Better Way Partners, LLC: Elkhart, IN (fiberglass parts manufacturing) | CP 039-8708-00141 (3/5/1998) and 039-17869-00141 (10/9/2003) | 2 Gel Coat Booths (P1-G1 and P2-G) and Resin Booth (P2-R) | VOC: monomer content limits (resin: 35-60%, gel coat: 37-50%); work practice standards; operator training | N/A | State BACT |
| Sea Fox Boat Company, Inc.: Berkeley, SC (boat manufacturing) | SC-0068 / 0420-0094 (12/23/2002) | Boat Manufacturing | VOC: Work practices; non-VOC cleanup solvent; resin % limits (35% for production resins non-atomized, 33% for pigmented gel coat, 48% for clear gel coat, 39% for tooling resin non-atomized, 40% for tooling gel coat); airless spray equipment or hand layup | N/A | LAER |
| Jacuzzi Whirlpool Bath: San Bernardino, CA (manufacture of showers and spas) | CA-1106 / 402868 (10/15/2002) | Resin Manufacturing: Polyester Resin Operations - Hand and Spray Layup (spray room vented to permanent total enclosure) | VOC: Concentrator and catalytic oxidizer with 90% control, no emission limit | 90% | PSD-BACT |
| Delivery Concepts, Inc.: Elkhart, IN (fiberglass mini truck body manufacturing plant) | CP 039-14380-00557 (9/27/2001) | Fiberglass Open Molding Operations | VOC: 66.5 ton/yr; monomer content limits (35% for resin, 37% for gel coat); work practice standards | N/A | State BACT |

| Facility: County, State | RBLC ID/Permit # (Issuance Date) | Process | Pollutant: Control, Emission Limits | Control Efficiency | Basis |
|---|---|---|---|---|---|
| Summit Fiberglass Inc: Elkhart, IN (fiber reinforced plastic composite parts manufacturing) | T039-7096-00067 (12/28/1999), 039-14485-00067 (8/7/2001) | Fiberglass reinforced plastic component manufacturing operations (Production Line 1) | VOC: FIT or HVLP spray applicators for gel coat and chop operations; average styrene content in gel coat and chop coat booths shall not exceed 40%; 75% transfer Efficiency | N/A | State BACT |
| Topp Industries, Inc.: Fulton, IN (fiberglass reinforced plastics tank and related sewer parts manufacturing operation) | T049-9015-00018 (5/31/2001) | Resin Application | VOC: 99 ton/yr; monomer content limit (35% for resins); non-atomized spray or equivalent; optimized spray techniques; work practice standards | N/A | State BACT |
| Master Spas, Inc.: Allen, IN (fiberglass spa manufacturing) | T003-9073-00249 (5/16/2001) | Fiberglass Lamination Chop Booths and Hand Layup Area | VOC: 132 ton/yr; resin content limits (37% for production gel coat, 38% for tooling gel coat, 35% for production resin, 43% for tooling resin, 42% for vinylester resin); non-atomized spray techniques or equivalent; optimized spray techniques; work practices | N/A | State BACT |
| AK Industries, Inc.: Marshall, IN (fiberglass parts manufacturing) | T099-7547-00043 (4/20/2001) | Fiberglass Parts Manufacturing | VOC: 100 ton/yr; monomer content limit (35% for resin, 37% for gel coat); flow coaters; optimized spray techniques; work practice standards | N/A | State BACT |
| C & C Fiberglass, Inc.: Marshall, IN (fiberglass fabrication facility) | T099-10107-00080 (4/20/2001) | 2 Gel Coat Booths (TD-GC #1-2) and 3 Laminating Areas (TD-LAM #1-3) | VHAP: 155 ton/yr; monomer content limits (37% for production gel coat, 38% for tooling gel coat, 35% for production resin, 43% for tooling resin); non-atomized spray techniques or equivalent; work practices | N/A | State BACT |
| Supreme Corporation: Elkhart, IN (truck and bus painting and parts manufacturing) | 039-6046-00103 (4/19/2001) | Fiberglass production units (M-1, M-2, M-3, M-4, M-5, M-6, M-7, M-8, M-9, B-1, B-2(a), B-2(b) N-3(a), N-3(b) and Binks115 touch up areas) | VOC: 240 ton/yr; monomer content limits (37% for production gel coat, 38% for tooling gel coat, 35% for production resin, 43% for tooling resin); non-atomized spray techniques or equivalent; optimized spray techniques; work practices | N/A | State BACT |
| Maax US Corporation: Marshall, IN (fiberglass reinforced plastic bathtub and showers manufacturing operation) | T099-5049-00020 (12/28/2000) | Reinforced Fiberglass Manufacturing Facilities | VOC: 250 ton/yr; monomer content limits (35% for resins, 37% for gel coats); non-atomized spray techniques or equivalent; optimized spray techniques; work practices | N/A | State BACT |
| C & C Fiberglass, Inc.: Marshall, IN (fiberglass fabrication facility) | 099-12250-00080 (8/25/2000) | 3 Gel Coat Booths (TSD-GC #1-3) and 1 Laminating Area (TSD-LAM #1) | VHAP: 100 ton/yr; monomer content limits (37% for production gel coat, 38% for tooling gel coat, 35% for production resin, 43% for tooling resin); non-atomized spray techniques or equivalent; optimized spray techniques; work practices | N/A | State BACT |
| Stingray Boat Company: Darlington, SC (boat mold and fiberglass boat manufacturing) | SC-0067 / 0820-0040 (6/20/2000) | Fiberglass Boat Manufacturing | VOC: Use of compliant coatings for specified application techniques (35% for production resins non-atomized, 33% for pigmented gel coat, 48% for clear gel coat, 39% for tooling resin non-atomized, 40% for tooling gel coat); non-VOC containing solvents and airless spray equipment or hand layup; 249 ton/yr | N/A | LAER |

| Facility: County, State | RBLC ID/Permit # (Issuance Date) | Process | Pollutant: Control, Emission Limits | Control Efficiency | Basis |
|---|---|---|---|---|---|
| Beneteau USA, Inc.: Marion, SC (boat manufacturing) | SC-0068 / 1660-0029 (4/19/2000) | Fiberglass Boat Manufacturing | VOC: Use of compliant coatings for specified application techniques (35% for non-atomized gel coats, 33% for pigmented gel coat, 48% for clear gel coat, 30% for atomized tooling resin, 39% for non-atomized tooling resin, 40% for tooling gel coat); 249 ton/yr | N/A | LAER |
| Fiber Pro, Inc.: Wexford, MI (manufactures fiberglass reinforced panels) | MI-0251 / 361-94C (3/24/2000) | Fiberglass Layup, Spray | Styrene: Controlled spraying techniques, barrier film covered cure, resins less than 38 wt% and gel coats less than 25 wt%, 0.04 lb/lb resin, 18.5 lb/hr, 44.9 ton/yr | N/A | Case-by-Case BACT |
| Structural Composites of Indiana, Inc.: Noble, IN (fiber reinforced plastic composites manufacturing) | M113-11385-00074 (3/3/2000) | Gel Coats and Resins | VOC: 100 ton/yr; monomer content limits (37% for production gel coat, 38% for tooling gel coat, 35% for production resin, 43% for tooling resin); non-atomized spray techniques or equivalent; optimized spray techniques; work practices | N/A | State BACT |
| Praxis Industries: Hordin, TN (manufactures fiberglass bathroom fixtures) | TN-0101 / 951739P (3/1/2000) | Polyester Resin and Gel Coat Application | VOC: Low VOC content coatings (vapor-surpressed resins with a styrene content of no more than 42 wt% and gel coats with a styrene content of no more than 30 wt%) and fluid impingement technology application guns, 486 ton per year 10-month rolling average | N/A | PSD-BACT |

**Step 2 – Eliminate Technically Infeasible Control Options**

Based on a review of the RBLC as well as other Indiana permits, BACT for open molding resin and gel coat processes using sprayup techniques has generally included monomer content limits, optimized spray techniques, and work practice standards. Control technologies were determined to be BACT for three sources in the review: concentrator/adsorption/regenerative thermal oxidation (95% control efficiency) and concentrator/catalytic oxidation (90% and 95% control efficiencies).

Flares and condensation systems will not be considered further for controlling VOC emissions from the open molding operations at Frontline Manufacturing, Inc. because the concentration of VOC in the exhaust stream is likely not high enough to sustain combustion or warrant control by condensation and these types of control are not typically used for these types of operations.

Non-regenerative carbon/zeolite adsorption systems will also not be considered further because as these materials reach saturation, removal efficiency decreases, at which point, they must be replaced. The VOC-laden adsorption elements would then require offsite disposal as hazardous waste. Also, non-regenerative carbon/zeolite adsorption systems cannot be operated close to the point where they are fully saturated in a plastic composites production operation, because this would risk polymerization of the styrene on the surface of the elements. This would reduce their effectiveness at the least and at worst would necessitate replacement. Recovery and reclamation of the styrene as liquids is not possible, as they will react and polymerize.

The use of alternative materials and application techniques will not be considered further because the source is already using resin and gel coats that are in compliance with 40 CFR 63, Subpart WWWW and using low-emitting application techniques. Alternative materials would also likely impact the quality of the products produced.

**Step 3 – Rank Remaining Control Options by Control Effectiveness**

1. Thermal Oxidation - 95%
2. Concentrator/Adsorption/RTO - 95%
3. Concentrator/Catalytic Oxidation - 90-95%

*Note: That while these may be the control efficiencies achievable with these types of control devices, it may be difficult to achieve these levels of control when the air flow is high and VOC concentration is low (dilute concentrations), as is the case with Frontline Manufacturing, Inc (estimated concentrations are 30-45 ppm).*

**Step 4: Evaluate the Most Effective Controls and Document the Results**

Cost effectiveness evaluations were performed for an RTO alone, a concentrator/RTO system, and a concentrator/catalytic oxidation system according to the guidance given in U.S. EPA's Cost Control Manual for both lines. All of the evaluations included the addition of a permanent total enclosure (PTE), since PTEs were a required component of the BACT determinations where control technologies were applied. A PTE is needed to capture all emissions for routing to the control device. A summary of the cost effectiveness analyses is given in the table below. The full analyses follow at the end of Step 4.

**Control Option Cost Effectiveness for Frontline's Resin and Gel Coat Application Booths**

| Line* | Option | Control Efficiency | Estimated Capital Costs | Estimated Annualized Costs | Estimated VOC Controlled (95%) (tons/year) | Cost Effectiveness ($/ton) |
|---|---|---|---|---|---|---|
| 1 | RTO | 95% | $1,797,211 | $1,237,667 | 95.0 | $13,028 |
| | Concentrator/Catalytic Oxidation System | 95% | $2,243,664 | $995,787 | 95.0 | $10,482 |
| | Concentrator/RTO System | 95% | $2,291,159 | $1,004,450 | 95.0 | $10,573 |
| 2 | RTO | 95% | $1,797,211 | $1,237,667 | 137.75 | $8,985 |
| | Concentrator/Catalytic Oxidation System | 95% | $2,243,664 | $995,787 | 137.75 | $7,229 |
| | Concentrator/RTO System | 95% | $2,291,159 | $1,004,450 | 137.75 | $7,292 |

**Line 1 includes SG1 and SG3*
**Line 2 includes SG5, SG7, and SG8*

It was assumed that the control efficiency achieved by the control devices would be 95%, which may not be achievable at Frontline Manufacturing, Inc. due to the high volume and low concentration of the exhaust (estimated at 30-45 ppm). It was also assumed that the potential to emit of Line 1 (SG1 and SG3) is 100 tons per year and the potential to emit of Line 2 (SG5, SG7, and SG8) is 145 tons per year, so that the source can remain minor for PSD. The source has operated at less than half of these emissions in the past. The cost effectiveness of the control devices for Line 1 (SG1 and SG3) ranged from $10,482 per ton of pollutant controlled for the Concentrator/RTO system to $13,028 per ton of pollutant controlled for the RTO system alone. The cost effectiveness of the control devices for Line 2 (SG5, SG7, and SG8) ranged from $7,229 per ton of pollutant controlled for the Concentrator/RTO system to $8,985 per ton of pollutant controlled for the RTO system alone.

In addition to the economic cost of the control devices, there are energy and environmental impacts associated with these controls. All of the three control options evaluated require the use

of natural gas and electricity, which drains energy resources. The combustion of natural gas in the control devices causes additional emissions of regulated air pollutants at the source such as PM, PM10, PM2.5, SO2, VOC, NOx, CO, and hazardous air pollutants. Additional emissions of regulated air pollutants will be generated at the source of electricity generation as well. Special waste disposal is also required for the adsorption filters with the concentrator/oxidizer systems and for the spent catalyst beds with the concentrator/catalytic oxidization system.

There are some differences in the operations at Frontline Manufacturing, Inc. when compared to the three sources requiring control technologies as BACT: Lasco Bathware in Nevada, Amerimax Building Products, Inc. in Indiana, and Jacuzzi Whirlpool Bath in California. Both Lasco Bathware and Amerimax Building Products, Inc. use higher emitting resins and gel coats and require the use of a control device in order to comply with 40 CFR 63, Subpart WWWW, whereas Frontline Manufacturing, Inc. is able to comply with the NESHAP without the use of a control device. Higher VOC concentrations also make the evaluated control devices more practical as they are more efficient at treating concentrated air streams. Both Amerimax Building Products, Inc. and Jacuzzi Whirlpool Bath were greenfield sites requiring the use of a control device. It is more practical to design a facility with the required control built into the design verses retrofitting a facility with a control device. Lasco Bathware had an existing RTO onsite, so the capital cost of control was not as high. Jacuzzi Whirlpool Bath also used an existing control system from a similar Jacuzzi facility.

The majority of sources in the review are required to use low emitting resins and gel coats, use low emitting application techniques, and follow work practice standards. Frontline Manufacturing, Inc. is already following such practices and is capable of complying with 40 CFR 63, Subpart WWWW without the use of a control device.

Based on the economic, environmental, and energy impacts analysis, it is determined that a control device is not economically feasible when compared to other similar sources. The costs associated with using a control device are not warranted for a source that is already following the best work practice standards in the industry.

Since it has been determined that control technologies are not economically feasible for Frontline Manufacturing, Inc., IDEM, OAQ has determined that compliance with the Maximum Achievable Control Technology (MACT), specifically, 40 CFR 63, Subpart WWWW and 326 IAC 20-56, will serve as BACT for the chop resin and gel coat application booths.

When developing a MACT standard for a particular source category, U.S. EPA looks at the level of emission control currently being achieved by the best-performing similar sources through various control methods, such as clean processes, control devices and work practices. These emission levels set a baseline, often referred to as the “MACT floor,” for the MACT standard.

The “MACT floor” is the initial determination of the MACT standard for each industry source category. It provides the minimum level of HAP emission control required for new and existing sources. The MACT floor for new sources is equivalent to the level of HAP emission control achieved by the best-controlled similar source, and the ”MACT floor” for existing sources is the average level of HAP emission control achieved by the top 12% of that industry group’s currently operating sources. At a minimum, a MACT standard must achieve, throughout the industry, a level of emissions control that is at least equivalent to the MACT floor. Under the 1990 Clean Air Act Amendments, U.S. EPA can establish a more stringent standard when this makes economic, environmental, and public health sense.

| Cost Effectiveness for an RTO | | | | |
|---|---|---|---|---|
| **Cost Item** | **Cost Factor** | **Cost Factor Multiplier** | **Cost ($)** | **Basis of Costs** |
| **Direct Capital Costs:** | | | | |
| ***Purchased Equipment Costs (PEC):*** | | | | |
| **Control System and auxiliary equipment (A)** | | | **$ 946,000** | Vendor quote - RTO + ductwork + permanent total enclosure |
| Instrumentation | 0.10 | A | $ 94,600 | EPA Cost Manual, Table 2.8 * |
| Taxes | 0.03 | A | $ 28,380 | |
| Freight | 0.05 | A | $ 47,300 | |
| **Total Purchased Equipment Costs (B):** | | | **$ 1,116,280** | |
| ***Direct Installation Costs:*** | | | | |
| Foundations/Supports | 0.08 | B | $ 89,302 | EPA Cost Manual, Table 2.8 * |
| Erection/handling | 0.14 | B | $ 156,279 | |
| Electrical | 0.04 | B | $ 44,651 | |
| Piping | 0.02 | B | $ 22,326 | |
| Insulation | 0.01 | B | $ 11,163 | |
| Painting | 0.01 | B | $ 11,163 | |
| **Total Direct Installation Costs (C):** | | | **$ 334,884** | |
| ***Site Preparation (SP):*** | | | **-** | Included in (A) |
| ***Buildings (Bldg):*** | | | **-** | Included in (A) |
| **Total Direct Capital Costs (DC):** | | | **$ 1,451,164** | = B + C + SP + Bldg |
| **Indirect Installation Costs:** | | | | |
| Engineering | 0.10 | B | $ 111,628 | EPA Cost Manual, Table 2.8 * |
| Construction/field expenses | 0.05 | B | $ 55,814 | |
| Construction fee | 0.10 | B | $ 111,628 | |
| Start-up | 0.02 | B | $ 22,326 | |
| Performance Test | 0.01 | B | $ 11,163 | |
| Contingencies | 0.03 | B | $ 33,488 | |
| **Total Indirect Capital Costs (IC):** | | | **$ 346,047** | |
| **TOTAL CAPITAL COSTS:** | | | **$ 1,797,211** | = DC + IC |
| **Direct Annual Operating Costs:** | | | | |
| Operating Labor: | | | | |
| Operator | | | $ 82,125 | Estimated by the Permittee |
| Supervision (15% of labor) | | | $ 12,319 | EPA Cost Manual, Table 2.10 |
| Operating Materials | | | | |
| Maintenance: | | | | |
| Maintenance Labor | | | $ 82,125 | Estimated by the Permittee |
| Maintenance Materials (100% of labor) | | | $ 82,125 | EPA Cost Manual, Table 2.10 |
| Replacement parts (as required) | | | $ 35,500 | Estimated 5% of RTO Cost |
| Utilities: | | | | |
| Electricity | | | $ 101,858 | = KW Requirements * Cost / KWH * 8760 hr/yr |
| KW Requirements | | 164 | | Vendor quote for fan requirements |
| Cost/KWH | | $0.0709 / KWH | | 2008 Average Retail Price for Indiana: http://www.eia.doe.gov |
| Natural Gas | | | $ 358,588 | = kCF/hr * Cost / kCF * 8760 hr/yr |
| MMBtu/hr Input | | 6.06 | | Vendor quote |
| kCF/hr | | 5.9 | | = MMBtu/hr * (1 MMCF/1020 MMBtu) * (1000 kcf/MMCF) |
| Cost/kCF | | $6.89 / kCF | | January 2010 Natural Gas Price for Industrial Users: http://www.eia.doe.gov |
| **Total Direct Operating Costs (DOC):** | | | **$ 754,640** | |
| **Indirect Operating (fixed) Annual Costs:** | | | | |
| Overhead | 60% of O & M labor/materials | | $ 155,216 | EPA Cost Manual, Table 2.10 |
| Administrative Charges | 2% of total capital costs | | $ 35,944 | |
| Property Tax | 1% of total capital costs | | $ 17,972 | |
| Insurance | 1% of total capital costs | | $ 17,972 | |
| Capital Recovery CRF= | 0.1424 | 7% for 10 years | $ 255,923 | |
| **Total Indirect Operating Costs (IOC):** | | | **$ 483,027** | |
| **TOTAL ANNUALIZED COSTS:** | | | **$ 1,237,667** | = DOC + IOC |
| | | **Line 1 (SG1 & SG3)** | **Line 2 (SG5, SG7 &SG8)** | |
| **Uncontrolled Emissions Rate (tons/year) =** | | **100.00** | **145.00** | |
| **Control System Efficiency =** | | 95.0% | 95.0% | |
| **Controlled Emissions Rate (tons/year) =** | | 5.00 | 7.25 | = Uncontrolled Rate * (1 - Control Efficiency) |
| **VOC Emissions Controlled (tons/year) =** | | 95.00 | 137.75 | = Uncontrolled Rate - Controlled Rate |
| **Cost ($/ton) =** | | **$13,028** | **$8,985** | = Total Annualized Cost / VOC Emissions Controlled |

"EPA Air Pollution Control Cost Manual, Sixth Edition", EPA-452-02-001, January 2002.

* For Direct and Indirect Capital Costs, Cost = Cost Factor * Cost Factor Multiplier

| Cost Effectiveness for a Concentrator/RTO System | | | | |
|---|---|---|---|---|
| **Cost Item** | **Cost Factor** | **Cost Factor Multiplier** | **Cost ($)** | **Basis of Costs** |
| **Direct Capital Costs:** | | | | |
| ***Purchased Equipment Costs (PEC):*** | | | | |
| **Control System and auxiliary equipment (A)** | | | **$ 1,181,000** | Vendor quote - Concentrator/RTO system + ductwork + permanent total enclosure |
| Instrumentation | 0.10 | A | $ 118,100 | EPA Cost Manual, Table 2.8 * |
| Taxes | 0.03 | A | $ 35,430 | |
| Freight | 0.05 | A | $ 59,050 | |
| **Total Purchased Equipment Costs (B):** | | | **$ 1,393,580** | |
| ***Direct Installation Costs:*** | | | | |
| Foundations/Supports | 0.08 | B | $ 111,486 | EPA Cost Manual, Table 2.8 * |
| Erection/handling | 0.14 | B | $ 195,101 | |
| Electrical | 0.04 | B | $ 55,743 | |
| Piping | 0.02 | B | $ 27,872 | |
| Insulation | 0.01 | B | $ 13,936 | |
| Painting | 0.01 | B | $ 13,936 | |
| **Total Direct Installation Costs (C):** | | | **$ 418,074** | |
| ***Site Preparation (SP):*** | | | **-** | Included in (A) |
| ***Buildings (Bldg):*** | | | **-** | Included in (A) |
| **Total Direct Capital Costs (DC):** | | | **$ 1,811,654** | = B + C + SP + Bldg |
| **Indirect Installation Costs:** | | | | |
| Engineering | 0.10 | B | $ 139,358 | EPA Cost Manual, Table 2.8 * |
| Construction/field expenses | 0.05 | B | $ 69,679 | |
| Construction fee | 0.10 | B | $ 139,358 | |
| Start-up | 0.02 | B | $ 27,872 | |
| Performance Test | 0.01 | B | $ 13,936 | |
| Contingencies | 0.03 | B | $ 41,807 | |
| **Total Indirect Capital Costs (IC):** | | | **$ 432,010** | |
| **TOTAL CAPITAL COSTS:** | | | **$ 2,243,664** | = DC + IC |
| **Direct Annual Operating Costs:** | | | | |
| Operating Labor: | | | | |
| Operator | | | $ 82,125 | Estimated by the Permittee |
| Supervision (15% of labor) | | | $ 12,319 | EPA Cost Manual, Table 2.10 |
| Operating Materials | | | | |
| Maintenance: | | | | |
| Maintenance Labor | | | $ 82,125 | Estimated by the Permittee |
| Maintenance Materials (100% of labor) | | | $ 82,125 | EPA Cost Manual, Table 2.10 |
| Replacement parts (as required) | | | $ 35,500 | Estimated 5% of System Cost |
| Utilities: | | | | |
| Electricity | | | $ 105,771 | = KW Requirements * Cost / KWH * 8760 hr/yr |
| KW Requirements | | 170.3 | | Vendor quote for fan requirements |
| Cost/KWH | | $0.0709 / KWH | | 2008 Average Retail Price for Indiana: http://www.eia.doe.gov |
| Natural Gas | | | $ 31,362 | = kCF/hr * Cost / kCF * 8760 hr/yr |
| MMBtu/hr Input | | 0.53 | | Vendor quote |
| kCF/hr | | 0.5 | | = MMBtu/hr * (1 MMCF/1020 MMBtu) * (1000 kcf/MMCF) |
| Cost/kCF | | $6.89 / kCF | | January 2010 Natural Gas Price for Industrial Users: http://www.eia.doe.gov |
| **Total Direct Operating Costs (DOC):** | | | **$ 431,326** | |
| **Indirect Operating (fixed) Annual Costs:** | | | | |
| Overhead | 60% of O & M labor/materials | | $ 155,216 | EPA Cost Manual, Table 2.10 |
| Administrative Charges | 2% of total capital costs | | $ 44,873 | |
| Property Tax | 1% of total capital costs | | $ 22,437 | |
| Insurance | 1% of total capital costs | | $ 22,437 | |
| Capital Recovery CRF= | 0.1424 | 7% for 10 years | $ 319,498 | |
| **Total Indirect Operating Costs (IOC):** | | | **$ 564,461** | |
| **TOTAL ANNUALIZED COSTS:** | | | **$ 995,787** | = DOC + IOC |
| | | **Line 1 (SG1 & SG3)** | **Line 2 (SG5, SG7 &SG8)** | |
| **Uncontrolled Emissions Rate (tons/year) =** | | **100.00** | **145.00** | |
| **Control System Efficiency =** | | 95.0% | 95.0% | |
| **Controlled Emissions Rate (tons/year) =** | | 5.00 | 7.25 | = Uncontrolled Rate * (1 - Control Efficiency) |
| **VOC Emissions Controlled (tons/year) =** | | 95.00 | 137.75 | = Uncontrolled Rate - Controlled Rate |
| **Cost ($/ton) =** | | **$10,482** | **$7,229** | = Total Annualized Cost / VOC Emissions Controlled |

"EPA Air Pollution Control Cost Manual, Sixth Edition", EPA-452-02-001, January 2002.

* For Direct and Indirect Capital Costs, Cost = Cost Factor * Cost Factor Multiplier

| Cost Effectiveness for a Concentrator/Catalytic Oxidation System | | | | |
|---|---|---|---|---|
| **Cost Item** | **Cost Factor** | **Cost Factor Multiplier** | **Cost ($)** | **Basis of Costs** |
| **Direct Capital Costs:** | | | | |
| ***Purchased Equipment Costs (PEC):*** | | | | |
| **Control System and auxiliary equipment (A)** | | | **$ 1,206,000** | Vendor quote - Concentrator/Catalytic Oxidation system + ductwork + permanent total enclosure |
| Instrumentation | 0.10 | A | $ 120,600 | EPA Cost Manual, Table 2.8 * |
| Taxes | 0.03 | A | $ 36,180 | |
| Freight | 0.05 | A | $ 60,300 | |
| **Total Purchased Equipment Costs (B):** | | | **$ 1,423,080** | |
| ***Direct Installation Costs:*** | | | | |
| Foundations/Supports | 0.08 | B | $ 113,846 | EPA Cost Manual, Table 2.8 * |
| Erection/handling | 0.14 | B | $ 199,231 | |
| Electrical | 0.04 | B | $ 56,923 | |
| Piping | 0.02 | B | $ 28,462 | |
| Insulation | 0.01 | B | $ 14,231 | |
| Painting | 0.01 | B | $ 14,231 | |
| **Total Direct Installation Costs (C):** | | | **$ 426,924** | |
| ***Site Preparation (SP):*** | | | **-** | Included in (A) |
| ***Buildings (Bldg):*** | | | **-** | Included in (A) |
| **Total Direct Capital Costs (DC):** | | | **$ 1,850,004** | = B + C + SP + Bldg |
| **Indirect Installation Costs:** | | | | |
| Engineering | 0.10 | B | $ 142,308 | EPA Cost Manual, Table 2.8 * |
| Construction/field expenses | 0.05 | B | $ 71,154 | |
| Construction fee | 0.10 | B | $ 142,308 | |
| Start-up | 0.02 | B | $ 28,462 | |
| Performance Test | 0.01 | B | $ 14,231 | |
| Contingencies | 0.03 | B | $ 42,692 | |
| **Total Indirect Capital Costs (IC):** | | | **$ 441,155** | |
| **TOTAL CAPITAL COSTS:** | | | **$ 2,291,159** | = DC + IC |
| **Direct Annual Operating Costs:** | | | | |
| Operating Labor: | | | | |
| Operator | | | $ 82,125 | Estimated by the Permittee |
| Supervision (15% of labor) | | | $ 12,319 | EPA Cost Manual, Table 2.10 |
| Operating Materials | | | | |
| Maintenance: | | | | |
| Maintenance Labor | | | $ 82,125 | Estimated by the Permittee |
| Maintenance Materials (100% of labor) | | | $ 82,125 | EPA Cost Manual, Table 2.10 |
| Replacement parts (as required) | | | $ 35,500 | Estimated 5% of System Cost |
| Utilities: | | | | |
| Electricity | | | $ 105,771 | = KW Requirements * Cost / KWH * 8760 hr/yr |
| KW Requirements | | 170.3 | | Vendor quote for fan requirements |
| Cost/KWH | | $0.0709 / KWH | | 2008 Average Retail Price for Indiana: http://www.eia.doe.gov |
| Natural Gas | | | $ 31,362 | = kCF/hr * Cost / kCF * 8760 hr/yr |
| MMBtu/hr Input | | 0.53 | | Vendor quote |
| kCF/hr | | 0.5 | | = MMBtu/hr * (1 MMCF/1020 MMBtu) * (1000 kcf/MMCF) |
| Cost/kCF | | $6.89 / kCF | | January 2010 Natural Gas Price for Industrial Users: http://www.eia.doe.gov |
| **Total Direct Operating Costs (DOC):** | | | **$ 431,326** | |
| **Indirect Operating (fixed) Annual Costs:** | | | | |
| Overhead | 60% of O & M labor/materials | | $ 155,216 | EPA Cost Manual, Table 2.10 |
| Administrative Charges | 2% of total capital costs | | $ 45,823 | |
| Property Tax | 1% of total capital costs | | $ 22,912 | |
| Insurance | 1% of total capital costs | | $ 22,912 | |
| Capital Recovery CRF= | 0.1424 | 7% for 10 years | $ 326,261 | |
| **Total Indirect Operating Costs (IOC):** | | | **$ 573,124** | |
| **TOTAL ANNUALIZED COSTS:** | | | **$ 1,004,450** | = DOC + IOC |
| | | **Line 1 (SG1 & SG3)** | **Line 2 (SG5, SG7 &SG8)** | |
| **Uncontrolled Emissions Rate (tons/year) =** | | **100.00** | **145.00** | |
| **Control System Efficiency =** | | 95.0% | 95.0% | |
| **Controlled Emissions Rate (tons/year) =** | | 5.00 | 7.25 | = Uncontrolled Rate * (1 - Control Efficiency) |
| **VOC Emissions Controlled (tons/year) =** | | 95.00 | 137.75 | = Uncontrolled Rate - Controlled Rate |
| **Cost ($/ton) =** | | **$10,573** | **$7,292** | = Total Annualized Cost / VOC Emissions Controlled |

"EPA Air Pollution Control Cost Manual, Sixth Edition", EPA-452-02-001, January 2002.

* For Direct and Indirect Capital Costs, Cost = Cost Factor * Cost Factor Multiplier

**Step 5 – Select BACT**

Pursuant to 326 IAC 8-1-6, the Best Available Control Technology (BACT) for VOC emissions from the Line 1 fiberglass production line (SG1 and SG3) and the Line 2 fiberglass production line (SG5, SG7, and SG8) shall be as follows:

(a) Compliance with all applicable requirements of 40 CFR 63, Subpart WWWW, as specified in Section E.1 of the permit.

(b) Compliance with the following requirements of 326 IAC 20-56-2, Operator Training:

(1) Each owner or operator shall train all new and existing personnel, including contract personnel, who are involved in resin and gel coat spraying and applications that could result in excess emissions if performed improperly according to the following schedule:

(A) All personnel hired shall be trained within thirty (30) days of hiring.

(B) To ensure training goals listed in subparagraph (b)(2) are maintained, all personnel shall be given refresher training annually.

(C) Personnel who have been trained by another owner or operator subject to this rule are exempt from subparagraph (b)(1)(A) if written documentation that the employee's training is current is provided to the new employer.

(2) The lesson plans shall cover, for the initial and refresher training, at a minimum, all of the following topics:

(A) Appropriate application techniques.

(B) Appropriate equipment cleaning procedures.

(C) Appropriate equipment setup and adjustment to minimize material usage and overspray.

(3) The owner or operator shall maintain the following training records on site and make them available for inspection and review:

(A) A copy of the current training program.

(B) A list of the following:

(i) All current personnel, by name, that are required to be trained.

(ii) The date the person was trained or the date of the most recent refresher training, whichever is later.

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

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

*We Protect Hoosiers and Our Environment.*

*Mitchell E. Daniels Jr.*
**Governor**

*Thomas W. Easterly*
**Commissioner**

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
**www.idem.IN.gov**


**SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED**

TO: Raymond Doss
Frontline Manufacturing, Inc.
PO Box 176
Leesburg, IN 46538

DATE: September 9, 2010

FROM: Matt Stuckey, Branch Chief
Permits Branch
Office of Air Quality

SUBJECT: Final Decision
Part 70
085-28963-00077

Enclosed is the final decision and supporting materials for the air permit application referenced above. Please note that this packet contains the original, signed, permit documents.

The final decision is being sent to you because our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person.

A copy of the final decision and supporting materials has also been sent via standard mail to:
OAQ Permits Branch Interested Parties List

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at jbrush@idem.IN.gov.

Final Applicant Cover letter.dot 11/30/07

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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**Governor**

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**Commissioner**

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Toll Free (800) 451-6027
**www.idem.IN.gov**


September 9, 2010

TO: Warsaw Public Library

From: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Subject: **Important Information for Display Regarding a Final Determination**

**Applicant Name:** **Frontline Manufacturing, Inc.**
**Permit Number:** **085-28963-00077**

You previously received information to make available to the public during the public comment period of a draft permit. Enclosed is a copy of the final decision and supporting materials for the same project. Please place the enclosed information along with the information you previously received. To ensure that your patrons have ample opportunity to review the enclosed permit, **we ask that you retain this document for at least 60 days.**

The applicant is responsible for placing a copy of the application in your library. If the permit application is not on file, or if you have any questions concerning this public review process, please contact Joanne Smiddie-Brush, OAQ Permits Administration Section at 1-800-451-6027, extension 3-0185.

Enclosures
Final Library.dot 11/30/07

# Mail Code 61-53

| IDEM Staff | CDENNY 9/9/2010<br>Frontline Manufacturing, Inc. 085-28963-00077 (final) | | | AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING |
|---|---|---|---|---|
| Name and address of Sender | ▶ | Indiana Department of Environmental Management<br>Office of Air Quality – Permits Branch<br>100 N. Senate<br>Indianapolis, IN 46204 | Type of Mail:<br>**CERTIFICATE OF MAILING ONLY** | |

| Line | Article Number | Name, Address, Street and Post Office Address | Postage | Handing Charges | Act. Value (If Registered) | Insured Value | Due Send if COD | R.R. Fee | S.D. Fee | S.H. Fee | Rest. Del. Fee<br>Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | Raymond Doss Frontline Manufacturing, Inc. PO Box 176 Leesburg IN 46538 (Source CAATS) | | | | | | | | | |
| 2 | | Mr. Charles L. Berger Attorney Berger & Berger, Attorneys at Law 313 Main Street Evansville IN 47700 *(Affected Party)* | | | | | | | | | |
| 3 | | Warsaw City Counil and Mayors Office P.O. Box 817 Warsaw IN 46581 *(Local Official)* | | | | | | | | | |
| 4 | | Warsaw Community Public Library 310 E Main St Warsaw IN 46580-2882 *(Library)* | | | | | | | | | |
| 5 | | Kosciusko County Board of Commissioners 100 W. Center St, Room 220 Warsaw IN 46580 *(Local Official)* | | | | | | | | | |
| 6 | | Dennis Barnes Barnes Consulting Services, LLC 111 S. High Street, Unit B Warsaw IN 46580 *(Consultant)* | | | | | | | | | |
| 7 | | Mr. Tim Thomas c/o Boilermakers Local 374 6333 Kennedy Ave. Hammond IN 46333 *(Affected Party)* | | | | | | | | | |
| 8 | | Kosciusko County Health Department 100 W. Center Street, 3rd Floor Warsaw IN 46580-2877 *(Health Department)* | | | | | | | | | |
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| Total number of pieces Listed by Sender | Total number of Pieces Received at Post Office | Postmaster, Per (Name of Receiving employee) | The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is $50,000 per piece subject to a limit of $50, 000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is $500. The maximum indemnity payable is $25,000 for registered mail, sent with optional postal insurance. See ***Domestic Mail Manual*** **R900, S913**, and **S921** for limitations of coverage on inured and COD mail. See ***International Mail Manual*** for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels. |
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