



*Mitchell E. Daniels, Jr.*  
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*Thomas W. Easterly*  
Commissioner

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TO: Interested Parties / Applicant  
DATE: November 2, 2007  
RE: R-Vision Motorized LLC/ 085-23438-00078  
FROM: Nisha Sizemore  
Chief, Permits Branch  
Office of Air Quality

### **Notice of Decision: Approval - Effective Immediately**

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3 and IC 13-15-6-1 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Room 1049, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

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

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

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

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

Enclosures  
FNPER.dot 03/23/06



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## Federally Enforceable State Operating Permit Renewal OFFICE OF AIR QUALITY

**R-Vision Motorized LLC  
2666 South Country Club Road  
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. 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.**

Indiana statutes from IC 13 and rules from 326 IAC, quoted 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 FESOP under 326 IAC 2-8.

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

Operation Permit No.: F 085-23438-00078	
Issued by/Original Signed By:  Nisha Sizemore, Chief Permits Branch Office of Air Quality	Issuance Date: November 2, 2007  Expiration Date: November 2, 2012

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## 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 2-8-3(b)]

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The Permittee owns and operates a travel trailer and motor home manufacturing source.

Source Address:	2666 South Country Club Road, Warsaw, Indiana 46580
Mailing Address:	2666 South Country Club Road, Warsaw, Indiana 46580
General Source Phone Number:	(574) 268-2111
SIC Code:	3792, 3716
County Location:	Kosciusko
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Federally Enforceable State Operating Permit Program Minor Source, under PSD Rules Minor Source, Section 112 of the Clean Air Act

### A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

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

- (a) Line 1, installed in August 1997, consisting of the following equipment:
- (1) One (1) woodworking area consisting of four (4) table saws, three (3) cut-off saws, one (1) band saw and one (1) belt sander, identified as Wood1.1, controlled by a cyclone, identified as W1.1, exhausted to stack W1-1, capacity: 1,460 pounds of wood per hour.
  - (2) One (1) assembly area consisting of laminating, painting, coating and adhesive application, identified as Assembly1, exhausted to the general ventilation and exiting at vent GV-01, capacity: 2.5 trailers per hour.
- (b) Line 2, installed in April 1998, consisting of the following equipment:
- (1) One (1) woodworking area consisting of four (4) table saws, three (3) cut-off saws, one (1) band saw and one (1) belt sander, identified as Wood2, controlled by a cyclone, identified as W2.1, exhausted to stack W2-1, capacity: 1,500 pounds of wood per hour.
  - (2) One (1) assembly and touch-up area, consisting of various aerosol cans, caulk guns, and hand-held cup guns, identified as Assembly2, exhausted to the general ventilation and exiting at vent GV-02, capacity: 2.5 trailers per hour.
  - (3) One (1) roll coating lamination process, identified as L2.1, exhausted to the general ventilation and exiting at vent GV-02, capacity: 2.5 trailers per hour.
- (c) Line 3, installed in November 1998, consisting of the following equipment:
- (1) One (1) woodworking area, consisting of four (4) table saws, three (3) cut-off saws, one (1) band saw and one (1) belt sander, identified as Wood3, controlled by a

- cyclone, identified as W3.1, exhausted to stack W3-1, capacity: 1,500 pounds of wood per hour.
- (2) One (1) assembly and touch-up area, consisting of various aerosol cans, caulk guns, and hand-held cup guns, identified as Assembly3, exhausted to the general ventilation and exiting at vent GV-03, capacity: 2.5 trailers per hour.
  - (3) One (1) roll coating lamination process, identified as L3.1, exhausted to the general ventilation and exiting at vent GV-03, capacity: 2.5 trailers per hour.
- (d) Line 4, installed in September 1999, consisting of the following equipment:
- (1) One (1) woodworking area consisting of four (4) table saws, three (3) cut-off saws, one (1) band saw and one (1) belt sander, identified as Wood4, controlled by a cyclone, identified as W4.1, exhausted to stack W4-1, capacity: 1,500 pounds of wood per hour.
  - (2) One (1) assembly area, consisting of various aerosol cans, brushing and spraying applications, identified as Assembly4, exhausted to the general ventilation and exiting at vent GV-04, capacity: 2.0 trailers per hour.
  - (3) One (1) roll coating lamination process, identified as L4.1, exhausted to the general ventilation and exiting at vent GV-04, capacity: 2.0 trailers per hour.
- (e) Line 5, installed in 2001, consisting of the following equipment:
- (1) One (1) woodworking area consisting of four (4) table saws, three (3) cut-off saws, one (1) band saw and one (1) belt sander, identified as Wood5, controlled by a cyclone, identified as W5.1, exhausting to stack W5-1, capacity: 1,500 pounds of wood per hour.
  - (2) One (1) assembly area, consisting of various aerosol cans, brushing and spraying applications, identified as Assembly5, exhausted to the general ventilation and exiting at vent GV-05, capacity: 2.0 trailers per hour.
  - (3) One (1) roll coating lamination process, identified as L5.1, exhausted to the general ventilation and exiting at vent GV-05, capacity: 2.0 trailers per hour.
- (f) Line 6, installed in 2002, consisting of the following equipment:
- (1) One (1) woodworking area consisting of four (4) table saws, three (3) cutoff saws, one (1) band saw and one (1) belt sander, identified as Wood6, controlled by a cyclone, identified as W6.1, exhausting to stack W6-1, capacity: 1,500 pounds of wood per hour.
  - (2) One (1) assembly area, consisting of various aerosol cans, brushing and spraying applications, identified as Assembly6, exhausted to the general ventilation and exiting at vent GV-06, capacity: 2.0 trailers per hour.
  - (3) One (1) roll coating lamination process, identified as L6.1, exhausted to the general ventilation and exiting at vent GV-06, capacity: 2.0 trailers per hour.
- (g) Line 7, installed in 2002, consisting of the following equipment:
- (1) One (1) woodworking area consisting of four (4) table saws, three (3) cutoff saws,

one (1) band saw and one (1) belt sander, identified as Wood7, controlled by a cyclone, identified as W7.1, exhausting to stack W7-1, capacity: 1,500 pounds of wood per hour.

- (2) One (1) assembly area, consisting of various aerosol cans, brushing and spraying applications, identified as Assembly7, exhausted to the general ventilation and exiting at vent GV-07, capacity: 2.0 trailers per hour.
- (3) One (1) roll coating lamination process, identified as L7.1, exhausted to the general ventilation and exiting at vent GV-07, capacity: 2.0 trailers per hour.

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

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

- (a) The following equipment related to manufacturing activities not resulting in the emission of HAPs:
  - (1) Four (4) MIG welding stations, identified as MIG1.1, MIG4.1, MIG5.1 and MIG6.1, exhausted to the general ventilation and exiting at vents GV-01, GV-04, GV-05 and GV-06, respectively, capacity: 1.0 pound of wire per hour, each.
  - (2) One (1) oxyacetylene flame cutter, identified as FC1.1, exhausted inside the plant, capacity: 40.0 inches per minute.
  - (3) One (1) MIG welding station, identified as MIG2.1, exhausted to the general ventilation and exiting at vent GV-02, capacity: 0.5 pounds of wire per hour.
  - (4) Two (2) MIG welding stations, identified as MIG3.1 and MIG3.2, exhausted to the general ventilation and exiting at vent GV-03, capacity: 1.0 pound of wire per hour, each.
- (b) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) British thermal units per hour:
  - (1) Four (4) natural gas fired space heaters, identified as H1.1 - H1.4, exhausted to stacks H1.1 - H1.4, capacity: 0.225, 0.125, 0.10, and 0.075 million British thermal units per hour, respectively.
  - (2) Four (4) natural gas fired space heaters, identified as H2.1 - H2.4, exhausted to stacks H2.1 - H2.4, capacity: 0.125 million British thermal units per hour, each.
  - (3) Five (5) natural gas fired space heaters, identified as H2.5 - H2.9, exhausted to stacks H2.5 - H2.9, capacity: 0.20 million British thermal units per hour, each.
  - (4) Five (5) natural gas fired space heaters, identified as H3.1 - H3.3, H3.5, and H3.6, exhausted to stacks H3.1 - H3.3, H3.5, and H3.6, capacity: 0.15 million British thermal units per hour, each.
  - (5) Seven (7) natural gas fired space heaters, identified as H3.4 and H3.7 - H3.12, exhausted to stacks H3.1 - H3.3 and H3.5 and H3.6, capacity: 0.125 million British thermal units per hour, each.
  - (6) Eight (8) natural gas fired space heaters, identified as H4.1 - H4.8, exhausted to stacks H4.1 - H4.8, rated at 0.10 million British thermal unit per hour, each.

- (7) Eight (8) natural gas fired space heaters, identified as H5.1 through H5.8, exhausting to stacks H5.1 through H5.8, rated at 0.20 million British thermal units per hour, each.
- (8) Eight (8) natural gas fired space heaters, identified as H6.1 through H6.8, exhausting to stacks H6.1 through H6.8, rated at 0.20 million British thermal units per hour, each.
- (9) Eight (8) natural gas fired space heaters, identified as H7.1 through H7.8, exhausting to stacks H7.1 through H7.8, rated at 0.20 million British thermal units per hour, each.

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

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

## **SECTION B GENERAL CONDITIONS**

### **B.1 Definitions [326 IAC 2-8-1]**

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 2-8-4(2)] [326 IAC 2-1.1-9.5] [IC 13-15-3-6(a)]**

- (a) This permit, F 085-23438-00078, 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 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 2-8-6]**

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 2-8-4(4)]**

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 2-8-4(5)(D)]**

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

### **B.7 Duty to Provide Information [326 IAC 2-8-4(5)(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 an "authorized individual" as defined by 326 IAC 2-1.1-1(1). 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 2-8-3(d)] [326 IAC 2-8-4(3)(C)(i)] [326 IAC 2-8-5(1)]

- (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 an "authorized individual" of truth, accuracy, and completeness. This certification shall state 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 attached Certification Form, with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.
- (c) An "authorized individual" is defined at 326 IAC 2-1.1-1(1).

B.9 Annual Compliance Certification [326 IAC 2-8-5(a)(1)]

- (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 Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

- (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 2-8-4(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 the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

B.10 Compliance Order Issuance [326 IAC 2-8-5(b)]

IDEM, OAQ may issue a compliance order to this Permittee upon discovery that this permit is in nonconformance with an applicable requirement. The order may require immediate compliance or contain a schedule for expeditious compliance with the applicable requirement.

B.11 Preventive Maintenance Plan [326 IAC 1-6-3] [326 IAC 2-8-4(9)] [326 IAC 2-8-5(a)(1)]

- (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:
- (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.
- (b) 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 do not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) 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.12 Emergency Provisions [326 IAC 2-8-12]

- (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 except as provided in 326 IAC 2-8-12.
- (b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a health-based or 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 and 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), or  
Telephone Number: 317-233-0178 (ask for Compliance Section)  
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 Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

and

Northern Regional Office  
220 W. Colfax Avenue, Suite 200  
South Bend, Indiana 46601-1634

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 2-8-4(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 the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (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 2-8-3(c)(6) 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 2-8 and any other applicable rules.
  - (g) Operations may continue during an emergency only if the following conditions are met:
    - (1) 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.

- (2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:
  - (A) The Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and
  - (B) Continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw material of substantial economic value.

Any operations shall continue no longer than the minimum time required to prevent the situations identified in (g)(2)(B) of this condition.

- (h) The Permittee shall include all emergencies in the Quarterly Deviation and Compliance Monitoring Report.

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

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- (a) All terms and conditions of permits established prior to F 085-23438-00078 and issued pursuant to permitting programs approved into the state implementation plan have been either:
  - (1) incorporated as originally stated,
  - (2) revised, or
  - (3) deleted.
- (b) All previous registrations and permits are superseded by this permit.

**B.14 Termination of Right to Operate [326 IAC 2-8-9] [326 IAC 2-8-3(h)]**

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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 2-8-3(h) and 326 IAC 2-8-9.

**B.15 Deviations from Permit Requirements and Conditions [326 IAC 2-8-4(3)(C)(ii)]**

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- (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 an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (b) A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of

the permit.

B.16 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-8-4(5)(C)]  
[326 IAC 2-8-7(a)] [326 IAC 2-8-8]

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- (a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Federally Enforceable State 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 2-8-4(5)(C)] The notification by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (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 2-8-8(a)]
- (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 2-8-8(b)]
- (d) The reopening and revision of this permit, under 326 IAC 2-8-8(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 2-8-8(c)]

B.17 Permit Renewal [326 IAC 2-8-3(h)]

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- (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 2-8-3. 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 certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management  
Permits Branch, 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 2-8 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 in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.18 Permit Amendment or Revision [326 IAC 2-8-10] [326 IAC 2-8-11.1]

- (a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-8-10 or 326 IAC 2-8-11.1 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  
Permits Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251  
  
Any such application shall be certified by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10 (b)(3)]

B.19 Operational Flexibility [326 IAC 2-8-15] [326 IAC 2-8-11.1]

- (a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-8-15(b) through (d) 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 approval required by 326 IAC 2-8-11.1 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  
Permits 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, 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 2-8-15(b) through (d). 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 2-8-15(b)(2), (c)(1), and (d).

- (b) Emission Trades [326 IAC 2-8-15(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 2-8-15(c).
- (c) Alternative Operating Scenarios [326 IAC 2-8-15(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 2-8-4(7). No prior notification of IDEM, OAQ, or U.S. EPA is required.
- (d) 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 2-8-11.1]

A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2 and 326 IAC 2-8-11.1.

B.21 Inspection and Entry [326 IAC 2-8-5(a)(2)] [IC 13-14-2-2] [IC 13-17-3-2] [IC13-30-3-1]

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 FESOP 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, at reasonable times, 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, at reasonable times, 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, at reasonable times, 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 2-8-10]

- (a) The Permittee must comply with the requirements of 326 IAC 2-8-10 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  
Permits Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

The application which shall be submitted by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.23 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-8-4(6)] [326 IAC 2-8-16][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) 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 2-8-4(3)] [326 IAC 2-8-5] [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 2-8-4(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 one hundred (100) pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed five hundred fifty-one thousandths (0.551) pounds per hour.

#### C.2 Overall Source Limit [326 IAC 2-8]

The purpose of this permit is to limit this source's potential to emit to less than major source levels for the purpose of Section 502(a) of the Clean Air Act.

(a) Pursuant to 326 IAC 2-8:

- (1) The potential to emit any regulated pollutant, except particulate matter (PM), from the entire source shall be limited to less than one hundred (100) tons per twelve (12) consecutive month period.
- (2) The potential to emit any individual hazardous air pollutant (HAP) from the entire source shall be limited to less than ten (10) tons per twelve (12) consecutive month period; and
- (3) The potential to emit any combination of HAPs from the entire source shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period.

(b) This condition shall include all emission points at this source including those that are insignificant as defined in 326 IAC 2-7-1(21). The source shall be allowed to add insignificant activities not already listed in this permit, provided that the source's potential to emit does not exceed the above specified limits.

(c) Section D of this permit contains independently enforceable provisions to satisfy this requirement.

#### C.3 Opacity [326 IAC 5-1]

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

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

#### C.4 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.5 Incineration [326 IAC 4-2] [326 IAC 9-1-2]**

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The Permittee shall not operate an incinerator or incinerate any waste or refuse except as provided in 326 IAC 4-2 and 326 IAC 9-1-2.

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

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

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- (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 two hundred sixty (260) linear feet on pipes or one hundred sixty (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  
Asbestos Section, Office of Air Quality  
100 North Senate Avenue  
MC 61-52 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 by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (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 seventy-five hundredths (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 Accredited 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 Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos.

### **Testing Requirements [326 IAC 2-8-4(3)]**

#### **C.8 Performance Testing [326 IAC 3-6]**

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- (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 test protocol, except as provided elsewhere in this permit, shall be submitted 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

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (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 certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (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.9 Compliance Requirements [326 IAC 2-1.1-11]**

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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 2-8-4] [326 IAC 2-8-5(a)(1)]**

#### **C.10 Compliance Monitoring [326 IAC 2-8-4(3)] [326 IAC 2-8-5(a)(1)]**

Unless otherwise specified in this permit, 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 monitoring related to that equipment. If due to circumstances beyond its control, that equipment cannot be installed and operated within ninety (90) days, 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 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 certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

### **Corrective Actions and Response Steps [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]**

#### **C.11 Risk Management Plan [326 IAC 2-8-4] [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.12 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-8-4] [326 IAC 2-8-5]**

- (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 response actions to IDEM, OAQ within thirty (30) days of receipt 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 one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred twenty (120) 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 the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

### **C.13 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]**

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- (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, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

### **C.14 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]**

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- (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. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted 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
- (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) 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 an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (e) 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.15 Compliance with 40 CFR 82 and 326 IAC 22-1**

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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 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.

## SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

### Emissions Unit Description: Lines 1 through 7

- (a) Line 1, installed in August 1997, consisting of the following equipment:
- (1) One (1) woodworking area consisting of four (4) table saws, three (3) cut-off saws, one (1) band saw and one (1) belt sander, identified as Wood1.1, controlled by a cyclone, identified as W1.1, exhausted to stack W1-1, capacity: 1,460 pounds of wood per hour.
  - (2) One (1) assembly area consisting of laminating, painting, coating and adhesive application, identified as Assembly1, exhausted to the general ventilation and exiting at vent GV-01, capacity: 2.5 trailers per hour.
- (b) Line 2, installed in April 1998, consisting of the following equipment:
- (1) One (1) woodworking area consisting of four (4) table saws, three (3) cut-off saws, one (1) band saw and one (1) belt sander, identified as Wood2, controlled by a cyclone, identified as W2.1, exhausted to stack W2-1, capacity: 1,500 pounds of wood per hour.
  - (2) One (1) assembly and touch-up area, consisting of various aerosol cans, caulk guns, and hand-held cup guns, identified as Assembly2, exhausted to the general ventilation and exiting at vent GV-02, capacity: 2.5 trailers per hour.
  - (3) One (1) roll coating lamination process, identified as L2.1, exhausted to the general ventilation and exiting at vent GV-02, capacity: 2.5 trailers per hour.
- (c) Line 3, installed in November 1998, consisting of the following equipment:
- (1) One (1) woodworking area, consisting of four (4) table saws, three (3) cut-off saws, one (1) band saw and one (1) belt sander, identified as Wood3, controlled by a cyclone, identified as W3.1, exhausted to stack W3-1, capacity: 1,500 pounds of wood per hour.
  - (2) One (1) assembly and touch-up area, consisting of various aerosol cans, caulk guns, and hand-held cup guns, identified as Assembly3, exhausted to the general ventilation and exiting at vent GV-03, capacity: 2.5 trailers per hour.
  - (3) One (1) roll coating lamination process, identified as L3.1, exhausted to the general ventilation and exiting at vent GV-03, capacity: 2.5 trailers per hour.
- (d) Line 4, installed in September 1999, consisting of the following equipment:
- (1) One (1) woodworking area consisting of four (4) table saws, three (3) cut-off saws, one (1) band saw and one (1) belt sander, identified as Wood4, controlled by a cyclone, identified as W4.1, exhausted to stack W4-1, capacity: 1,500 pounds of wood per hour.
  - (2) One (1) assembly area, consisting of various aerosol cans, brushing and spraying applications, identified as Assembly4, exhausted to the general ventilation and exiting at vent GV-04, capacity: 2.0 trailers per hour.
  - (3) One (1) roll coating lamination process, identified as L4.1, exhausted to the general ventilation and exiting at vent GV-04, capacity: 2.0 trailers per hour.
- (e) Line 5, installed in 2001, consisting of the following equipment:
- (1) One (1) woodworking area consisting of four (4) table saws, three (3) cut-off saws, one (1) band saw and one (1) belt sander, identified as Wood5, controlled by a cyclone, identified as W5.1, exhausting to stack W5-1, capacity: 1,500 pounds of wood per hour.

**Emissions Unit Description: Lines 1 through 7 - Continued**

- (2) One (1) assembly area, consisting of various aerosol cans, brushing and spraying applications, identified as Assembly5, exhausted to the general ventilation and exiting at vent GV-05, capacity: 2.0 trailers per hour.
- (3) One (1) roll coating lamination process, identified as L5.1, exhausted to the general ventilation and exiting at vent GV-05, capacity: 2.0 trailers per hour.
- (f) Line 6, installed in 2002, consisting of the following equipment:
  - (1) One (1) woodworking area consisting of four (4) table saws, three (3) cutoff saws, one (1) band saw and one (1) belt sander, identified as Wood6, controlled by a cyclone, identified as W6.1, exhausting to stack W6-1, capacity: 1,500 pounds of wood per hour.
  - (2) One (1) assembly area, consisting of various aerosol cans, brushing and spraying applications, identified as Assembly6, exhausted to the general ventilation and exiting at vent GV-06, capacity: 2.0 trailers per hour.
  - (3) One (1) roll coating lamination process, identified as L6.1, exhausted to the general ventilation and exiting at vent GV-06, capacity: 2.0 trailers per hour.
- (g) Line 7, installed in 2002, consisting of the following equipment:
  - (1) One (1) woodworking area consisting of four (4) table saws, three (3) cutoff saws, one (1) band saw and one (1) belt sander, identified as Wood7, controlled by a cyclone, identified as W7.1, exhausting to stack W7-1, capacity: 1,500 pounds of wood per hour.
  - (2) One (1) assembly area, consisting of various aerosol cans, brushing and spraying applications, identified as Assembly7, exhausted to the general ventilation and exiting at vent GV-07, capacity: 2.0 trailers per hour.
  - (3) One (1) roll coating lamination process, identified as L7.1, exhausted to the general ventilation and exiting at vent GV-07, capacity: 2.0 trailers per hour.

(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 2-8-4(1)]**

**D.1.1 Volatile Organic Compounds (VOC) [326 IAC 8-2-12]**

Pursuant to 326 IAC 8-2-12 (Wood Furniture and Cabinet Coating), the surface coating applied to wood furniture and cabinets shall utilize one of the following application methods:

- Airless Spray Application
- Air Assisted Airless Spray Application
- Electrostatic Spray Application
- Electrostatic Bell or Disc Application
- Heated Airless Spray Application
- Roller Coating
- Brush or Wipe Application
- Dip-and-Drain Application

High Volume Low Pressure (HVLP) Spray Application is an accepted alternative method of application for Air Assisted Airless Spray Application. HVLP spray is the technology used to apply coating to substrate by means of coating application equipment which 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.

**D.1.2 Volatile Organic Compounds (VOC) [326 IAC 8-2-9]**

- (a) Pursuant to 326 IAC 8-2-9, when coating metal, the Permittee shall not allow the discharge into the atmosphere of VOC in excess of three and five-tenths (3.5) pounds of VOC per gallon of coating, excluding water, as delivered to the applicator, for air dried and extreme performance coatings.
- (b) Pursuant to 326 IAC 8-2-9(f), all solvents sprayed from the application equipment of Lines 1 through 7 during cleanup or color changes shall be directed into containers. Said containers shall be closed as soon as the solvent spraying is complete. In addition, all waste solvent shall be disposed of in such a manner that minimizes evaporation.

**D.1.3 Volatile Organic Compounds (VOC) [326 IAC 2-8-4]**

The usage of VOC by the five (5) assembly areas, identified as Assembly1, Assembly4, Assembly5, Assembly6 and Assembly7, the two (2) assembly and touch-up areas, identified as Assembly2 and Assembly3, and six (6) roll coating lamination processes, identified as L2.1, L3.1, L4.1, L5.1, L6.1 and L7.1, shall be limited to less than 99.7 tons per twelve (12) consecutive month period, total, with compliance determined at the end of each month. This will limit the potential to emit VOC to less than 99.7 tons per year from the seven production lines, Line 1 through Line 7, and less than 100 tons per year from the entire source, rendering 326 IAC 2-7, Part 70, not applicable.

**D.1.4 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]**

The usage of VOC when cleaning or applying coatings, sealants, solvents, or adhesives to plastic, glass, rubber, and wood parts, other than wood furniture and cabinets, at each the production lines identified as Line 1, Line 2 and Line 3, including assembly, touch-up and lamination processes shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period, each, with compliance determined at the end of each month. This limits the potential to emit VOC from each production line to less than twenty-five (25) tons per year and renders the requirements of 326 IAC 8-1-6 not applicable.

**D.1.5 Particulate [326 IAC 6-3-2]**

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emission rate from the woodworking facilities shall be limited as follows:

Process	Process Weight Rate (lbs/hr)	326 IAC 6-3-2 Limited Emission Rate (lbs/hr)
Wood1.1	1,460	3.32
Wood2	1,500	3.38
Wood3	1,500	3.38
Wood4	1,500	3.38
Wood5	1,500	3.38
Wood6	1,500	3.38
Wood7	1,500	3.38

The limited emission rates are based upon the following:

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

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

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

**D.1.6 Preventive Maintenance Plan [326 IAC 2-8-4(9)]**

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities.

**Compliance Determination Requirements**

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

Compliance with the VOC content and usage limitations contained in Conditions D.1.2, D.1.3 and D.1.4, 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.

**D.1.7 Particulate Control**

In order to comply with Condition D.1.5, the cyclones, identified as W1.1, W2.1, W3.1, W4.1, W5.1, W6.1 and W7.1, for particulate control shall be in operation and control emissions from the woodworking areas, identified as Wood1.1, Wood2, Wood3, Wood4, Wood5, Wood6 and Wood7, respectively, at all times that woodworking areas are in operation.

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

**D.1.8 Record Keeping Requirements**

(a) To document compliance with Conditions D.1.2, D.1.3 and D.1.4, the Permittee shall maintain records in accordance with (1) through (5) below. Records maintained for (1) through (5) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits established in Conditions D.1.2, D.1.3 and D.1.4. Records necessary to demonstrate compliance shall be available within thirty (30) days of the end of each compliance period.

- (1) The VOC content of each coating material and solvent used.
- (2) The amount of coating material and solvent less water used on monthly basis at Line 1, Line 2, Line 3, and the total of all seven (7) lines, identified as Line 1 through Line 7.
  - (A) Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used.
  - (B) Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents.
- (3) The cleanup solvent usage at Line 1, Line 2, Line 3, and the total of all seven (7) lines, identified as Line 1 through Line 7, for each month;
- (4) The total VOC usage at Line 1, Line 2, Line 3, and the total of all seven (7) lines, identified as Line 1 through Line 7, for each month; and
- (5) The weight of VOCs emitted at Line 1, Line 2, Line 3, and the total of all seven (7) lines, identified as Line 1 through Line 7, for each compliance period.

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

#### D.1.9 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.1.3 and D.1.4 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY**

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)  
CERTIFICATION**

Source Name: R-Vision Motorized LLC  
Source Address: 2666 South Country Club Road, Warsaw, Indiana 46580  
Mailing Address: 2666 South Country Club Road, Warsaw, Indiana 46580  
FESOP No.: F 085-23438-00078

**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:

Date:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE BRANCH  
100 North Senate Avenue  
MC61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251  
Phone: 317-233-0178  
Fax: 317-233-6865**

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)  
EMERGENCY OCCURRENCE REPORT**

Source Name: R-Vision Motorized LLC  
Source Address: 2666 South Country Club Road, Warsaw, Indiana 46580  
Mailing Address: 2666 South Country Club Road, Warsaw, Indiana 46580  
FESOP No.: F 085-23438-00078

**This form consists of 2 pages**

**Page 1 of 2**

- |   |
|---|
| <input type="checkbox"/> This is an emergency as defined in 326 IAC 2-7-1(12) <ul style="list-style-type: none"><li>• 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</li><li>• 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</li></ul> |
|---|

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

Facility/Equipment/Operation:
Control Equipment:
Permit Condition or Operation Limitation in Permit:
Description of the Emergency:
Describe the cause of the Emergency:

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

Page 2 of 2

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

Form Completed by: \_\_\_\_\_

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

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

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

A certification is not required for this report.

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

**FESOP Quarterly Report**

Source Name: R-Vision Motorized LLC  
 Source Address: 2666 South Country Club Road, Warsaw, Indiana 46580  
 Mailing Address: 2666 South Country Club Road, Warsaw, Indiana 46580  
 FESOP No.: F 085-23438-00078  
 Facilities: Five (5) assembly areas, identified as Assembly1, Assembly4, Assembly5, Assembly6 and Assembly7, the two (2) assembly and touch-up areas, identified as Assembly2 and Assembly3, and six (6) roll coating lamination processes, identified as L2.1, L3.1, L4.1, L5.1, L6.1 and L7.1  
 Parameter: VOC Usage  
 Limit: Less than 99.7 tons per twelve (12) consecutive month period, total, with compliance determined at the end of each month

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

Month	VOC Usage (tons)	VOC Usage (tons)	VOC Usage (tons)
	This Month	Previous 11 Months	12 Month Total

- No deviation occurred in this month.
- Deviation/s occurred in this month.  
 Deviation has been reported on \_\_\_\_\_

Submitted by: \_\_\_\_\_

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

Signature: \_\_\_\_\_

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

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

Attach a signed certification to complete this report.

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

**FESOP Quarterly Report**

Source Name: R-Vision Motorized LLC  
Source Address: 2666 South Country Club Road, Warsaw, Indiana 46580  
Mailing Address: 2666 South Country Club Road, Warsaw, Indiana 46580  
FESOP No.: F 085-23438-00078  
Facility: Line 1  
Parameter: VOC Usage  
Limit: Less than 25.0 tons per twelve (12) consecutive month period, with compliance determined at the end of each month

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

Month	VOC Usage (tons)	VOC Usage (tons)	VOC Usage (tons)
	This Month	Previous 11 Months	12 Month Total

- No deviation occurred in this month.
- Deviation/s occurred in this month.  
Deviation has been reported on \_\_\_\_\_

Submitted by: \_\_\_\_\_

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

Signature: \_\_\_\_\_

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

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

Attach a signed certification to complete this report.

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

**FESOP Quarterly Report**

Source Name: R-Vision Motorized LLC  
Source Address: 2666 South Country Club Road, Warsaw, Indiana 46580  
Mailing Address: 2666 South Country Club Road, Warsaw, Indiana 46580  
FESOP No.: F 085-23438-00078  
Facility: Line 2  
Parameter: VOC Usage  
Limit: Less than 25.0 tons per twelve (12) consecutive month period, with compliance determined at the end of each month

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

Month	VOC Usage (tons)	VOC Usage (tons)	VOC Usage (tons)
	This Month	Previous 11 Months	12 Month Total

- No deviation occurred in this month.
- Deviation/s occurred in this month.  
Deviation has been reported on \_\_\_\_\_

Submitted by: \_\_\_\_\_

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

Signature: \_\_\_\_\_

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

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

Attach a signed certification to complete this report.

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

**FESOP Quarterly Report**

Source Name: R-Vision Motorized LLC  
Source Address: 2666 South Country Club Road, Warsaw, Indiana 46580  
Mailing Address: 2666 South Country Club Road, Warsaw, Indiana 46580  
FESOP No.: F 085-23438-00078  
Facility: Line 3  
Parameter: VOC Usage  
Limit: Less than 25.0 tons per twelve (12) consecutive month period, with compliance determined at the end of each month

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

Month	VOC Usage (tons)	VOC Usage (tons)	VOC Usage (tons)
	This Month	Previous 11 Months	12 Month Total

- No deviation occurred in this month.
- Deviation/s occurred in this month.  
Deviation has been reported on \_\_\_\_\_

Submitted by: \_\_\_\_\_

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

Signature: \_\_\_\_\_

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

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

Attach a signed certification to complete this report.

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

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)  
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT**

Source Name: R-Vision Motorized LLC  
Source Address: 2666 South Country Club Road, Warsaw, Indiana 46580  
Mailing Address: 2666 South Country Club Road, Warsaw, Indiana 46580  
FESOP No.: F 085-23438-00078

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

Page 1 of 2

<p>This report shall be submitted quarterly based on a calendar year. Any deviation from the requirements, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. 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".</p>	
<input type="checkbox"/> NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.	
<input type="checkbox"/> THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD	
<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	
<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	

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

Form Completed by: \_\_\_\_\_

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

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

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

A certification is not required for this report.

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

Technical Support Document (TSD) for a  
Federally Enforceable State Operating Permit Renewal

**Source Background and Description**

<b>Source Name:</b>	R-Vision Motorized LLC
<b>Source Location:</b>	2666 South Country Club Road, Warsaw, Indiana 46580
<b>County:</b>	Kosciusko
<b>SIC Code:</b>	3792 and 3716
<b>Permit Renewal No.:</b>	F 085-23438-00078
<b>Permit Reviewer:</b>	CarrieAnn Paukowits

The Office of Air Quality (OAQ) has reviewed the operating permit renewal application from R-Vision Motorized LLC relating to the operation of a travel trailer and motor home manufacturing source.

**History**

On July 31, 2006, R-Vision Motorized LLC submitted an application to the OAQ requesting to renew its operating permit. R-Vision Motorized LLC, previously called R-Vision, Inc., was issued a FESOP (F 085-15108-00078) on May 8, 2002.

**Permitted Emission Units and Pollution Control Equipment**

- (a) Line 1, installed in August 1997, consisting of the following equipment:
- (1) One (1) woodworking area consisting of four (4) table saws, three (3) cut-off saws, one (1) band saw and one (1) belt sander, identified as Wood1.1, controlled by a cyclone, identified as W1.1, exhausted to stack W1-1, capacity: 1,460 pounds of wood per hour.
  - (2) One (1) assembly area consisting of laminating, painting, coating and adhesive application, identified as Assembly1, exhausted to the general ventilation and exiting at vent GV-01, capacity: 2.5 trailers per hour.
- (b) Line 2, installed in April 1998, consisting of the following equipment:
- (1) One (1) woodworking area consisting of four (4) table saws, three (3) cut-off saws, one (1) band saw and one (1) belt sander, identified as Wood2, controlled by a cyclone, identified as W2.1, exhausted to stack W2-1, capacity: 1,500 pounds of wood per hour.
  - (2) One (1) assembly and touch-up area, consisting of various aerosol cans, caulk guns, and hand-held cup guns, identified as Assembly2, exhausted to the general ventilation and exiting at vent GV-02, capacity: 2.5 trailers per hour.
  - (3) One (1) roll coating lamination process, identified as L2.1, exhausted to the general ventilation and exiting at vent GV-02, capacity: 2.5 trailers per hour.
- (c) Line 3, installed in November 1998, consisting of the following equipment:
- (1) One (1) woodworking area, consisting of four (4) table saws, three (3) cut-off saws, one (1) band saw and one (1) belt sander, identified as Wood3, controlled by a cyclone, identified as W3.1, exhausted to stack W3-1, capacity: 1,500 pounds of wood per hour.

- (2) One (1) assembly and touch-up area, consisting of various aerosol cans, caulk guns, and hand-held cup guns, identified as Assembly3, exhausted to the general ventilation and exiting at vent GV-03, capacity: 2.5 trailers per hour.
  - (3) One (1) roll coating lamination process, identified as L3.1, exhausted to the general ventilation and exiting at vent GV-03, capacity: 2.5 trailers per hour.
- (d) Line 4, installed in September 1999, consisting of the following equipment:
- (1) One (1) woodworking area consisting of four (4) table saws, three (3) cut-off saws, one (1) band saw and one (1) belt sander, identified as Wood4, controlled by a cyclone, identified as W4.1, exhausted to stack W4-1, capacity: 1,500 pounds of wood per hour.
  - (2) One (1) assembly area, consisting of various aerosol cans, brushing and spraying applications, identified as Assembly4, exhausted to the general ventilation and exiting at vent GV-04, capacity: 2.0 trailers per hour.
  - (3) One (1) roll coating lamination process, identified as L4.1, exhausted to the general ventilation and exiting at vent GV-04, capacity: 2.0 trailers per hour.
- (e) Line 5, installed in 2001, consisting of the following equipment:
- (1) One (1) woodworking area consisting of four (4) table saws, three (3) cut-off saws, one (1) band saw and one (1) belt sander, identified as Wood5, controlled by a cyclone, identified as W5.1, exhausting to stack W5-1, capacity: 1,500 pounds of wood per hour.
  - (2) One (1) assembly area, consisting of various aerosol cans, brushing and spraying applications, identified as Assembly5, exhausted to the general ventilation and exiting at vent GV-05, capacity: 2.0 trailers per hour.
  - (3) One (1) roll coating lamination process, identified as L5.1, exhausted to the general ventilation and exiting at vent GV-05, capacity: 2.0 trailers per hour.
- (f) Line 6, installed in 2002, consisting of the following equipment:
- (1) One (1) woodworking area consisting of four (4) table saws, three (3) cutoff saws, one (1) band saw and one (1) belt sander, identified as Wood6, controlled by a cyclone, identified as W6.1, exhausting to stack W6-1, capacity: 1,500 pounds of wood per hour.
  - (2) One (1) assembly area, consisting of various aerosol cans, brushing and spraying applications, identified as Assembly6, exhausted to the general ventilation and exiting at vent GV-06, capacity: 2.0 trailers per hour.
  - (3) One (1) roll coating lamination process, identified as L6.1, exhausted to the general ventilation and exiting at vent GV-06, capacity: 2.0 trailers per hour.
- (g) Line 7, installed in 2002, consisting of the following equipment:
- (1) One (1) woodworking area consisting of four (4) table saws, three (3) cutoff saws, one (1) band saw and one (1) belt sander, identified as Wood7, controlled by a cyclone, identified as W7.1, exhausting to stack W7-1, capacity: 1,500 pounds of wood per hour.
  - (2) One (1) assembly area, consisting of various aerosol cans, brushing and spraying applications, identified as Assembly7, exhausted to the general ventilation and exiting at vent GV-07, capacity: 2.0 trailers per hour.

- (3) One (1) roll coating lamination process, identified as L7.1, exhausted to the general ventilation and exiting at vent GV-07, capacity: 2.0 trailers per hour.

### **Emission Units and Pollution Control Equipment Constructed and/or Operated without a Permit**

There are no unpermitted emission units at this source.

### **Emission Units and Pollution Control Equipment Removed From the Source**

No emission units have been removed from this source.

### **Insignificant Activities**

- (a) The following equipment related to manufacturing activities not resulting in the emission of HAPs:
  - (1) Four (4) MIG welding stations, identified as MIG1.1, MIG4.1, MIG5.1 and MIG6.1, exhausted to the general ventilation and exiting at vents GV-01, GV-04, GV-05 and GV-06, respectively, capacity: 1.0 pound of wire per hour, each.
  - (2) One (1) oxyacetylene flame cutter, identified as FC1.1, exhausted inside the plant, capacity: 40.0 inches per minute.
  - (3) One (1) MIG welding station, identified as MIG2.1, exhausted to the general ventilation and exiting at vent GV-02, capacity: 0.5 pounds of wire per hour.
  - (4) Two (2) MIG welding stations, identified as MIG3.1 and MIG3.2, exhausted to the general ventilation and exiting at vent GV-03, capacity: 1.0 pound of wire per hour, each.
- (b) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) British thermal units per hour:
  - (1) Four (4) natural gas fired space heaters, identified as H1.1 - H1.4, exhausted to stacks H1.1 - H1.4, capacity: 0.225, 0.125, 0.10, and 0.075 million British thermal units per hour, respectively.
  - (2) Four (4) natural gas fired space heaters, identified as H2.1 - H2.4, exhausted to stacks H2.1 - H2.4, capacity: 0.125 million British thermal units per hour, each.
  - (3) Five (5) natural gas fired space heaters, identified as H2.5 - H2.9, exhausted to stacks H2.5 - H2.9, capacity: 0.20 million British thermal units per hour, each.
  - (4) Five (5) natural gas fired space heaters, identified as H3.1 - H3.3, H3.5, and H3.6, exhausted to stacks H3.1 - H3.3, H3.5, and H3.6, capacity: 0.15 million British thermal units per hour, each.
  - (5) Seven (7) natural gas fired space heaters, identified as H3.4 and H3.7 - H3.12, exhausted to stacks H3.1 - H3.3 and H3.5 and H3.6, capacity: 0.125 million British thermal units per hour, each.
  - (6) Eight (8) natural gas fired space heaters, identified as H4.1 - H4.8, exhausted to stacks H4.1 - H4.8, rated at 0.10 million British thermal unit per hour, each.
  - (7) Eight (8) natural gas fired space heaters, identified as H5.1 through H5.8, exhausting to stacks H5.1 through H5.8, rated at 0.20 million British thermal units per hour, each.

- (8) Eight (8) natural gas fired space heaters, identified as H6.1 through H6.8, exhausting to stacks H6.1 through H6.8, rated at 0.20 million British thermal units per hour, each.
- (9) Eight (8) natural gas fired space heaters, identified as H7.1 through H7.8, exhausting to stacks H7.1 through H7.8, rated at 0.20 million British thermal units per hour, each.

### Existing Approvals

Since the issuance of the FESOP (F 085-15108-00078) on May 8, 2002, the source has constructed or has been operating under the following approvals as well:

- (a) Administrative Amendment No. 085-16675-00078, issued on November 14, 2002; and
- (b) Administrative Amendment No. 085-22482-00078, issued on February 1, 2006.

All terms and conditions of previous permits issued pursuant to permitting programs approved into the State Implementation Plan have been either incorporated as originally stated, revised, or deleted by this permit. All previous registrations and permits are superseded by this permit.

The following terms and conditions from previous approvals have been revised in this FESOP Renewal:

- (a) Condition D.1.11: In order to comply with Condition D.1.6, the cyclones for PM control shall be in operation at all times when the woodworking areas are in operation.

Reason revised: Only the cyclone for Wood1.1 is required in order for the process to comply with 326 IAC 6-3-2 according to the calculations in this document (see "326 IAC 6-3-2" under the State Rule Applicability - Individual Facilities section of this document and the calculations in Appendix A). Therefore, only the operation of the cyclone identified as W1.1 is required by this proposed permit.

The following terms and conditions from previous approvals have been determined no longer applicable; therefore, were not incorporated into this FESOP Renewal:

- (a) All construction conditions from all previously issued permits.

Reason not incorporated: All facilities previously permitted have already been constructed; therefore, the construction conditions are no longer necessary as part of the operating permit. Any facilities that were previously permitted but have not yet been constructed would need new pre-construction approval before beginning construction.

- (b) Condition D.1.4: The worst case single HAP delivered to the applicators shall not exceed a total of ten (10) tons per twelve (12) consecutive month period. Therefore, the requirements of 326 IAC 2-7 do not apply.

Reason not incorporated: The unrestricted potential to emit methyl ethyl ketone (MEK) is greater than ten (10) tons per year. MEK has been de-listed from the list of hazardous air pollutants (HAPs). Therefore, the unrestricted potential to emit each individual HAP from this source is less than ten (10) tons per year, and the limit is no longer required. Any change or modification that increases the potential to emit any HAP to ten (10) tons per year or more may make the source subject to 326 IAC 2-7, Part 70, and shall require prior IDEM, OAQ, approval.

- (c) Condition D.1.12, Visible Emission Notations, and Condition D.1.13, Cyclone Inspections.

Reason not incorporated: The unrestricted potential to emit from the woodworking operations are sufficiently low that monitoring is not specifically required by this permit.

- (d) Condition D.2.1: The particulate matter (PM) from the MIG welding and flame cutting operations shall be limited by the following:

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

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

Reason not incorporated: The 326 IAC 6-3 revisions that became effective on June 12, 2002, were approved into the State Implementation Plan on September 23, 2005. This rule replaces the previous version of 326 IAC 6-3 (Process Operations) that had been part of the SIP; therefore, the requirements of the previous version of 326 IAC 6-3-2 are no longer applicable to this source. The facilities at this source are subject to the requirements of the new version of the rule, and those requirements are incorporated into this permit (see "326 IAC 6-3-2" under the *State Rule Applicability - Individual Facilities* section of this document). The welding operations at this source consume less than 625 pounds of weld wire or rod per day and the cutting operations at this source cut less than 3,400 inches of stock one (1) inch thick or less per hour. Therefore, pursuant to 326 IAC 6-3-1(b)(9) and 326 IAC 6-3-1(b)(10), the welding and flame cutting operations are now exempt from the requirements of 326 IAC 6-3.

**Enforcement Issue**

There are no enforcement actions pending.

**Stack Summary**

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
GV-01	Assembly1	14.0	2.0	10,000	70
GV-02	Assembly2 & L2.1	14.0	2.0	10,000	70
GV-03	Assembly3 & L3.1	14.0	2.0	10,000	70
GV-04	Assembly4 & L4.1	14.0	2.0	10,000	70
GV-05	Assembly5 & L5.1	14.0	2.0	10,000	70
GV-06	Assembly6 & L6.1	14.0	2.0	10,000	70
GV-07	Assembly7 & L7.1	14.0	2.0	10,000	70
W1-1	Wood1.1	28.0	2.0	4,500	70
W2-1	Wood2	28.0	2.0	4,500	70
W3-1	Wood3	28.0	2.0	4,500	70
W4-1	Wood4	28.0	2.0	4,500	70
W5-1	Wood5	28.0	2.0	4,500	70
W6-1	Wood6	28.0	2.0	4,500	70
W7-1	Wood7	28.0	2.0	4,500	70

## Emission Calculations

See Appendix A of this document for detailed emission calculations (9 pages).

## County Attainment Status

The source is located in Kosciusko County

Pollutant	Status
PM <sub>10</sub>	attainment
PM <sub>2.5</sub>	attainment
SO <sub>2</sub>	attainment
NO <sub>x</sub>	attainment
8-hour Ozone	attainment
CO	attainment
Lead	attainment

- (a) Kosciusko County has been classified as attainment for PM<sub>2.5</sub>. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM<sub>2.5</sub> emissions. Therefore, until the U.S. EPA adopts specific provisions for PSD review for PM<sub>2.5</sub> emissions, it has directed states to regulate PM<sub>10</sub> emissions as a surrogate for PM<sub>2.5</sub> emissions. See the State Rule Applicability – Entire Source section.
- (b) Volatile organic compounds (VOC) and nitrogen oxides (NO<sub>x</sub>) 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 emissions and NO<sub>x</sub> emissions are considered when evaluating the rule applicability relating to ozone. Kosciusko County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions and NO<sub>x</sub> emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability – Entire Source section.
- (c) Kosciusko County has been classified as attainment or unclassifiable in Indiana for all remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability – Entire Source section.
- (d) On October 25, 2006, the Indiana Air Pollution Control Board finalized a rule revision to 326 IAC 1-4-1 revoking the one-hour ozone standard in Indiana.
- (e) Fugitive Emissions  
Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive emissions are not counted toward determination of PSD.

### Unrestricted Potential Emissions

This table reflects the unrestricted potential emissions of the source.

Pollutant	tons/year
PM	96.9
PM <sub>10</sub>	97.1
SO <sub>2</sub>	0.024
VOC	173
CO	3.40
NO <sub>x</sub>	4.05

HAPs	tons/year
Hexane	4.24
MDI	0.011
Xylenes	0.657
Benzene	0.186
Glycol Ethers	2.34
Styrene	0.137
Dimethylphthalate	0.040
Formaldehyde	0.003
Manganese	0.002
Dichlorobenzene, Toluene, Lead, Cadmium, Chromium & Nickel	< 0.001, each
Total	7.62

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of VOC is equal to or greater than one hundred (100) tons per year. The source is subject to the provisions of 326 IAC 2-7. However, the source has agreed to limit their VOC emissions to less than Title V levels, therefore the source will be issued a FESOP.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of all other criteria pollutants are less than one hundred (<100) tons per year.
- (c) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is less than twenty-five (25) tons per year.

#### Fugitive Emissions

Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-7, fugitive emissions are not counted toward the determination of Part 70 applicability.

### Actual Emissions

No previous emission data has been received from the source.

**Potential to Emit After Issuance**

The source has opted to remain a FESOP source. The table below summarizes the potential to emit, reflecting all limits of the emission units. Any control equipment is considered enforceable only after issuance of this FESOP and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

Process/Emission Unit	Potential to Emit (tons/year)						
	PM	PM <sub>10</sub>	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	Other (HAPs)
Line 1: Assembly1	0.430	0.430	0.000	99.7	0.000	0.000	0.710 hexane; 1.25 total
Line 2: Assembly2 & L2.1	0.430	0.430	0.000		0.000	0.000	0.710 hexane; 1.25 total
Line 3: Assembly3 & L3.1	0.844	0.844	0.000		0.000	0.000	0.474 hexane; 1.03 total
Line 4: Assembly4 & L4.1	0.412	0.412	0.000		0.000	0.000	0.568 hexane; 1.02 total
Line 5: Assembly5 & L5.1	0.412	0.412	0.000		0.000	0.000	0.568 hexane; 1.02 total
Line 6: Assembly6 & L6.1	0.344	0.344	0.000		0.000	0.000	0.568 hexane; 0.995 total
Line 7: Assembly7 & L7.1	0.344	0.344	0.000		0.000	0.000	0.568 hexane; 0.995 total
Line 1: Wood1.1	14.5	20.3	0.000	0.000	0.000	0.000	0.000
Line 2: Wood2	11.8	11.8	0.000	0.000	0.000	0.000	0.000
Line 3: Wood3	11.8	11.8	0.000	0.000	0.000	0.000	0.000
Line 4: Wood4	11.8	11.8	0.000	0.000	0.000	0.000	0.000
Line 5: Wood5	11.8	11.8	0.000	0.000	0.000	0.000	0.000
Line 6: Wood6	11.8	11.8	0.000	0.000	0.000	0.000	0.000
Line 7: Wood7	11.8	11.8	0.000	0.000	0.000	0.000	0.000
Insignificant Welding & Cutting	2.39	2.39	0.000	0.000	0.000	0.000	0.002 manganese; 0.002 total
Insignificant Combustion	0.077	0.308	0.024	0.223	3.40	4.05	0.073 hexane; 0.076 total
<b>Total</b>	<b>91.1</b>	<b>97.1</b>	<b>0.024</b>	<b>99.9</b>	<b>3.40</b>	<b>4.05</b>	<b>4.24 hexane; 7.62 total</b>
<b>Major Source Threshold</b>	<b>250</b>	<b>250</b>	<b>250</b>	<b>250</b>	<b>250</b>	<b>250</b>	-

This existing stationary source is not major for PSD because the emissions of each criteria pollutant are less than two hundred fifty (<250) tons per year, and it is not one of the twenty-eight (28) listed source categories.

### **Federal Rule Applicability**

- (a) This source does not coat metal furniture. Therefore, the requirements of 40 CFR 60, Subpart EE, Standards of Performance for Surface Coating of Metal Furniture, and 40 CFR 63, Subpart RRRR, National Emission Standards for Hazardous Air Pollutants: Surface Coating of Metal Furniture, are not included in the permit for this source.
- (b) The travel trailers and motor homes assembled at this source are not automobiles or light duty trucks pursuant to 40 CFR 60.391. Therefore, the requirements of 40 CFR 60, Subpart MM, Standards of Performance for Automobile and Light Duty Truck Surface Coating Operations, and 40 CFR 63, Subpart IIII, National Emission Standards for Hazardous Air Pollutants: Surface Coating of Automobiles and Light-Duty Trucks, are not included in the permit for this source.
- (c) This source is not a major source of HAPs. Therefore, requirements of 40 CFR 63, Subpart JJ, National Emission Standards for Wood Furniture Manufacturing Operations, are not included in the permit for this source.
- (d) This source is not a major source of HAPs. Therefore, the requirements of 40 CFR 63, Subpart MMMM, the National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products, are not included in the permit for this source.
- (e) This source is not a major source of HAPs. Therefore, the requirements of 40 CFR 63, Subpart PPPP, National Emission Standards for Hazardous Air Pollutants for Surface Coating of Plastic Parts and Products, are not included in the permit for this source.

### **State Rule Applicability – Entire Source**

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

The unrestricted potential to emit each criteria pollutant is less than two hundred fifty (250) tons per year and this source is not in one (1) of the twenty-eight (28) listed source categories in 326 IAC 2-2. Therefore, the requirements of 326 IAC 2-2, PSD, are not applicable, and no limits are required in order to render 326 IAC 2-2, PSD, not applicable.

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

The operation of each facility at this source will emit less than ten (10) tons per year of a single HAP and less than twenty-five (25) tons per year of a combination of HAPs. Therefore, the requirements of 326 IAC 2-4.1 are not applicable.

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

This source is not located in Lake, Porter or LaPorte County, does not emit five (5) tons per year or more of lead and does not require a Part 70 Operating Permit. Therefore, the requirements of 326 IAC 2-6 do not apply.

#### 326 IAC 2-8-4 (FESOP)

The usage of VOC by the five (5) assembly areas, identified as Assembly1, Assembly4, Assembly5, Assembly6 and Assembly7, the two (2) assembly and touch-up areas, identified as Assembly2 and Assembly3, and six (6) roll coating lamination processes, identified as L2.1, L3.1, L4.1, L5.1, L6.1 and L7.1, shall be limited to less than 99.7 tons per twelve (12) consecutive month period, total, with compliance determined at the end of each month. This will limit the potential to emit VOC to less than 99.7 tons per year from the seven production lines, Line 1 through Line 7, and less than 100 tons per year from the entire source (99.7 tons/yr + 0.223 tons/yr from combustion < 100 tons/yr), rendering 326 IAC 2-7, Part 70, not applicable.

**326 IAC 5-1 (Opacity Limitations)**

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

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

**State Rule Applicability – Individual Facilities**

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

- (a) The six (6) roll coating lamination processes, identified as L2.1, L3.1, L4.1, L5.1, L6.1 and L7.1, use only roll coaters to apply coatings. Therefore, pursuant to 326 IAC 6-3-1(b)(6), the six (6) roll coating lamination processes are exempt from the requirements of 326 IAC 6-3.
- (b) The potential particulate emissions from the five (5) assembly areas, identified as Assembly1, Assembly4, Assembly5, Assembly6 and Assembly7, and the two (2) assembly and touch-up areas, identified as Assembly2 and Assembly3, are less than 0.551 pounds per hour, each. Therefore, pursuant to 326 IAC 6-3-1(b)(14), those processes are exempt from the requirements of 326 IAC 6-3.
- (c) The welding operations at this source consume less than 625 pounds of weld wire or rod per day. Therefore, pursuant to 326 IAC 6-3-1(b)(9), the welding is exempt from the requirements of 326 IAC 6-3.
- (d) The torch cutting operations at this source cut less than 3,400 inches of stock one (1) inch thick or less per hour. Therefore, pursuant to 326 IAC 6-3-1(b)(10), the torch cutting is exempt from the requirements of 326 IAC 6-3.
- (e) Pursuant to 326 IAC 6-3-2, the particulate from the woodworking operations shall be limited as follows:

<b>Process</b>	<b>Process Weight Rate (lbs/hr)</b>	<b>326 IAC 6-3-2 Limited Emission Rate (lbs/hr)</b>	<b>Unrestricted Potential Emissions (lbs/hr)</b>	<b>Controlled Potential Emissions (lbs/hr)</b>
Wood1.1	1,460	3.32	4.67	0.926
Wood2	1,500	3.38	2.70	0.540
Wood3	1,500	3.38	2.70	0.540
Wood4	1,500	3.38	2.70	0.540
Wood5	1,500	3.38	2.70	0.540
Wood6	1,500	3.38	2.70	0.540
Wood7	1,500	3.38	2.70	0.540

The limited emission rate is based upon the following:

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

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

The cyclones, identified as W1.1, W2.1, W3.1, W4.1, W5.1, W6.1 and W7.1, shall be in operation at all times that the woodworking is in operation, in order to comply with this limit. According to the calculations in Appendix A and the table above, only the cyclone identified as W1.1 is required. However, the calculations are based on estimated control device parameters. Therefore, all of the cyclones are required by the permit.

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

Plastic and fiberglass coating is not regulated by any other Article 8 rule. In addition, most of the wood coated at this source is not wood furniture and cabinets, nor is the wood flat wood panels regulated by 326 IAC 8-2-10. Each production line operates independently of and in parallel to the other lines. Therefore, each line is considered a separate facility. Assuming all coatings that can be applied to those substrates are applied to their maximum potential, the potential VOC emissions from Lines 1, 2 and 3 are greater than twenty-five (25) tons per year, each. The VOC usage when cleaning or applying coatings, sealants, solvents, or adhesives to plastic, glass, rubber, and wood parts, other than wood furniture and cabinets, at Lines 1, 2 and 3, including assembly, touch-up and lamination processes shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period, each, with compliance determined at the end of each month. This limits the potential to emit VOC from each production line to less than twenty-five (25) tons per year and renders 326 IAC 8-1-6 not applicable.

**326 IAC 8-2-2 (Automobile and Light Duty Truck Coating Operations)**

The motor homes and travel trailers assembled at this source are not passenger cars or passenger car derivatives. Therefore, the requirements of 326 IAC 8-2-2 are not applicable.

**326 IAC 8-2-6 (Metal Furniture Coating Operations)**

This source does not coat any metal furniture. Therefore, the requirements of 326 IAC 8-2-6 are not applicable.

**326 IAC 8-2-9 (Miscellaneous Metal Coating Operations)**

Each production line at this source was constructed after July 1, 1990, has actual VOC emissions greater than fifteen (15) pounds per day, and coats miscellaneous metal products under SIC 37. Therefore, the operations at the seven (7) lines, Lines 1 through 7, are subject to the requirements of 326 IAC 8-2-9, when applying coating or adhesives to metal. Pursuant to 326 IAC 8-2-9, the volatile organic compound (VOC) content of the coating delivered to the applicators when coating metal at each production line shall be limited to 3.5 pounds of VOCs per gallon of coating less water, for air dried or extreme performance coatings.

Solvent sprayed from application equipment during cleanup or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.

Based on the MSDS submitted by the source and calculations made, the spray booth is in compliance with this requirement.

**326 IAC 8-2-10 (Flat Wood Panels; Manufacturing Operations)**

This source does not coat any flat wood panels that are considered printed panels, natural finish hardwood plywood panels, or hardboard paneling with Class II finishes. Therefore, the requirements of 326 IAC 8-2-10 are not applicable.

**326 IAC 8-2-11 (Fabric and Vinyl Coating)**

This source does not perform fabric or vinyl coating. Therefore, the requirements of 326 IAC 8-2-11 are not applicable.

**326 IAC 8-2-12 (Wood Furniture and Cabinet Coating)**

The wood furniture and cabinets used in the trailers are pre-coated. However, some adhesives are applied to wood furniture and cabinets and actual VOC emissions from each line are greater than fifteen (15) pounds per day. Pursuant to 326 IAC 8-2-12, the surface coating applied to wood furniture and cabinets shall utilize one of the following application methods:

- Airless Spray Application
- Air Assisted Airless Spray Application
- Electrostatic Spray Application
- Electrostatic Bell or Disc Application
- Heated Airless Spray Application
- Roller Coating
- Brush or Wipe Application
- Dip-and-Drain Application

High Volume Low Pressure (HVLP) Spray Application is an accepted alternative method of application for Air Assisted Airless Spray Application. HVLP spray is the technology used to apply coating to substrate by means of coating application equipment which 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.

**Compliance Determination and Monitoring Requirements**

Permits issued under 326 IAC 2-8 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 2-8-4. 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.

- (a) The seven (7) production lines (Lines 1 through 7) have applicable compliance determination conditions as specified below:
  - (1) Compliance with the VOC content and usage limitations contained in the permit 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.

- (2) In order to comply with 326 IAC 6-3-2, the cyclones, identified as W1.1, W2.1, W3.1, W4.1, W5.1, W6.1 and W7.1, for particulate control shall be in operation and control emissions from the woodworking areas, identified as Wood1.1, Wood2, Wood3, Wood4, Wood5, Wood6 and Wood7, respectively, at all times that woodworking areas are in operation.

- (b) There are no compliance monitoring requirements specifically applicable to this source.

### **Recommendation**

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

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

An application for the purposes of this review was received on July 31, 2006. Additional information was received on July 18, July 27, July 30 and July 31, 2007.

### **Conclusion**

The operation of this travel trailer and motor home manufacturing source shall be subject to the conditions of the attached **FESOP Renewal No. F 085-23438-00078**.

**Appendix A: Emissions Calculations**  
**VOC, Particulate and HAPs from Surface Coating Operations:**  
**Line 1 and Line 2**

**Company Name: R-Vision Motorized LLC**  
**Address City IN Zip: 2666 South Country Club Road, Warsaw, Indiana 46581**  
**FESOP Renewal: F 085-23438-00078**  
**Reviewer: CarrieAnn Paukowitz**  
**Date: July 27, 2007**

Material	Density (lbs/gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum per Line (units/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC (pounds per hour)	Potential VOC (pounds per day)	Potential VOC (tons per year)	Particulate Potential (tons/yr)	lbs VOC/gal solids	Transfer Efficiency	Material
<b>Adhesives</b>																	
Catey Regular Clear Solvent Cement	7.62	90.00%	2.5%	87.5%	2.5%	12.00%	0.02400	2.500	6.84	6.67	0.40	9.60	1.75	0.00	N/A	100%	plastic
676 High Strength Adhesive	6.65	77.20%	25.0%	52.2%	12.4%	22.80%	0.03900	2.500	3.96	3.47	0.34	8.12	1.48	0.32	15.23	50%	m.p.f
Expanding Foam-A	10.26	1.00%	0.0%	1.0%	0.0%	99.00%	0.03000	2.500	0.10	0.10	0.01	0.18	0.03	0.00	0.10	100%	m.p.f
Expanding Foam-B	8.60	6.00%	5.0%	1.0%	5.0%	99.00%	0.03000	2.500	0.09	0.09	0.01	0.15	0.03	0.00	0.09	100%	m.p.f
Morad Water Reactive Adhesive M-664							6.00000	2.500			see below	see below	see below	0.00		100%	m.p.f
DAP Weldwood Carpenter's Glue	9.10	50.10%	50.0%	0.1%	45.0%	50.0%	0.02000	2.500	0.017	0.009	0.00	0.01	0.00	0.00	0.02	100%	wood
Pur Fect Lock Adhesive							0.30000	2.500			see below	see below	see below	0.00		100%	m.p.f
Urethane Laminating Adhesive(Mor-ad 1105)							0.70000	2.500			see below	see below	see below	0.00		100%	m.p.f
<b>Paints</b>																	
3M Primer	6.84	94.00%	0.0%	94.0%	0.0%	6.00%	0.00400	2.500	6.43	6.43	0.06	1.54	0.28	0.01	107.16	50%	fiberglass
<b>Cleaners/Thinners</b>																	
Crazy Clean All Purpose Cleaner	8.35	100.00%	91.5%	8.50%	91.5%	0.00%	0.07100	2.500	8.35	0.71	0.13	3.02	0.55	0.00	N/A	100%	m.p.f
Mineral Spirits	6.58	100.00%	0.0%	100.0%	0.0%	0.00%	0.00200	2.500	6.58	6.58	0.03	0.79	0.14	0.00	N/A	100%	fiberglass
Cycto Glass Cleaner	8.16	99.90%	87.9%	12.0%	88.0%	0.00%	0.01700	2.500	8.16	0.98	0.04	1.00	0.18	0.00	N/A	50%	m.p.f
Handi-Foam Cleaner	10.02						0.00900	2.500			see below	see below	see below	0.00	N/A	100%	fiberglass
<b>Caulks/Sealants</b>																	
502 LSD HAPs Free Lap Sealant	9.92	32.50%	0.0%	32.5%	0.0%	67.50%	0.42100	2.500	3.22	3.22	3.39	81.44	14.86	0.00	4.78	100%	m.p.f
502 LSD HAPs Free Lap Sealant	9.92	32.50%	0.0%	32.5%	0.0%	67.50%	0.16400	2.500	3.22	3.22	1.32	31.72	5.79	0.00	4.78	100%	m.p.f
502 LSD HAPs Free Lap Sealant	9.92	32.50%	0.0%	32.5%	0.0%	67.50%	0.06000	2.500	3.22	3.22	0.48	11.61	2.12	0.00	4.78	100%	m.p.f
Bowman/RTV Silicone	8.67	3.00%	0.0%	3.00%	0.0%	85.00%	0.06000	2.500	0.26	0.26	0.04	0.94	0.17	0.00	0.31	100%	m.p.f
<b>Final Finish</b>																	
Body Filler 6370	10.80						0.00273	2.500			see below	see below	see below	see below		50%	fiberglass

<b>METHODOLOGY</b>	PM	Control Efficiency	0.00%	<b>6.26</b>	<b>150.13</b>	<b>27.40</b>	<b>0.333</b>
Emission factors based on the type of application from "Unfired Emission Factors for Open Molding of Composites," Composites Fabricators Association (April 1999)		<b>Uncontrolled per Line</b>					
m.p.f = metal, plastic, fiberglass		<b>Uncontrolled Total for Two (2) Lines</b>		<b>12.51</b>	<b>300.27</b>	<b>54.80</b>	<b>0.667</b>
Pounds of VOC per Gallon Coating less Water = (Density (lbs/gal) * Weight % Organics) / (1-Volume % water)							
Pounds of VOC per Gallon Coating = (Density (lbs/gal) * Weight % Organics)							
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lbs/gal) * Gal of Material (gal/unit) * Maximum (units/hr)							
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lbs/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hrs/day)							
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lbs/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hrs/yr) / (1 ton/2000 lbs)							
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1 - Transfer efficiency) / (8760 hrs/yr) / (1 ton/2000 lbs)							
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)							

Material (Resin or Gel Name)	Density (Lb/Gal)	Weight % Monomer	Gal of Mat. (gal/unit)	Maximum usage (unit/hour)	UEF (lbs monomer/ton resin or gel)	Potential VOC/HAP (pounds per day)	Potential VOCHAP (tons per year)	Transfer Efficiency	Potential PM (tons/year)
<b>Final Finish</b>									
Body Filler 6370	10.80	40.00%	0.00273	2.500	123	0.11	0.02	50.00%	0.10
<b>Total per Booth</b>						<b>0.020</b>	<b>0.097</b>		<b>0.097</b>
<b>Total for two (2) lines</b>						<b>0.040</b>	<b>0.194</b>		<b>0.194</b>

**METHODOLOGY**  
 Assume all of the monomer is styrene.  
 Emission factors based on the type of application from "Unfired Emission Factors for Open Molding of Composites," Composites Fabricators Association (April 1999)  
 Potential VOC (lb/day) for resins or gels = Density (lb material/gal material) \* Gal. of material (gal material/unit) \* Maximum usage (unit/hr) \* UEF (lb styrene/ton material) \* 24 hrs/day \* 1 ton material/2000 lbs material  
 Potential VOC (ton/year) = Potential VOC (lb/day) \* 365 days/year / (1 ton/2000 lb)  
 Potential PM (ton/year) = Density \* (1 - Weight % monomer or VOC) \* Gal. of Material \* Maximum Usage \* (1 - transfer efficiency) \* 24 hrs/day \* 365 days/year / (1 ton/2000 lb)

**MDI Calculations**  
 $W = 25.4 \times VP_{md} \times (Mw / T_{proc}) \times (u)^{0.75} \times Sa \times t_{ff}$   
 W = evaporation losses in g/day  
 VP<sub>md</sub> = the vapor pressure of MDI in atmospheres @ the process temperature  
 T<sub>proc</sub> = the process temperature in K  
 Mw = the molecular weight of MD  
 u = the airflow speed in m/s  
 t<sub>ff</sub> = the "back free" time in second  
 Sa = surface area

	Expanding Foam-A		Adhesive M-664		Pur. Fect Lock Adhesive		Adhesive(Mor-ad 1105)		Handi-Foam Cleaner	
Hourly product production rate	2.5	products/hour	2.5	products/hour	2.5	products/hour	2.5	products/hour	2.5	products/hour
Sa coated per part	1.00	m <sup>2</sup>	10.00	m <sup>2</sup>	10.00	m <sup>2</sup>	10.00	m <sup>2</sup>	0.10	m <sup>2</sup>
Sa/day	60.00		600.00		600.00		600.00		6.00	
Applicator surface area	1.00	m <sup>2</sup>	1.00	m <sup>2</sup>	1.00	m <sup>2</sup>	1.00	m <sup>2</sup>	0.10	m <sup>2</sup>
Airflow rate (scfm)	10.00	scfm	10.00	scfm	10.00	scfm	10.00	scfm	10.00	scfm
Airflow rate (U)	0.05	m/s	0.05	m/s	0.05	m/s	0.05	m/s	0.51	m/s
t <sub>ff</sub>	600	seconds	600	seconds	600	seconds	600	seconds	600	seconds
T <sub>proc</sub>	70	Fahrenheit	70	Fahrenheit	70	Fahrenheit	70	Fahrenheit	70	Fahrenheit
T <sub>proc</sub>	294	Kelvin	294	Kelvin	294	Kelvin	294	Kelvin	294	Kelvin
MW	250.26		250.26		250.26		250.26		250.26	
Weight % MDI	70.00%		14.0%		2.3%		11.4%		30.0%	
Vapor Pressure of the weight % MDI @ T <sub>proc</sub>	5.68E-09	atmospheres	1.14E-09	atmospheres	1.87E-10	atmospheres	9.25E-10	atmospheres	2.43E-09	atmospheres

	MDI Emissions	Total Emissions				
Each Booth	0.00043 g/day	0.00086 g/day	0.00014 g/day	0.00070 g/day	0.00011 g/day	0.00225 g/day
	0.00035 tons/year	0.00070 tons/year	0.00011 tons/year	0.00057 tons/year	0.00009 tons/year	0.00181 tons/year
<b>Total for the Two (2) Lines</b>	<b>0.00086 g/day</b>	<b>0.00173 g/day</b>	<b>0.00028 g/day</b>	<b>0.00141 g/day</b>	<b>0.00022 g/day</b>	<b>0.00451 g/day</b>
	<b>0.00070 tons/year</b>	<b>0.00139 tons/year</b>	<b>0.00023 tons/year</b>	<b>0.00113 tons/year</b>	<b>0.00018 tons/year</b>	<b>0.00363 tons/year</b>

**Methodology**  
 Emission factors are from the MDI/Polymeric MDI Emissions Reporting Guidelines For the Polyurethane Industry from www.polyurethane.org.  
 % MDI (4,4'-Diphenylmethane Diisocyanate) is from Material Safety Data Sheets (MSDS)

Material	Density (lbs/gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Hexane	Weight % Xylenes	Weight % Ethyl Benzene	Weight % Glycol Ethers	Hexane Emissions (tons/yr)	Xylenes Emissions (tons/yr)	Benzene Emissions (tons/yr)	Glycol Ethers Emissions (tons/yr)	Total HAPs Emissions (tons/yr)
<b>Adhesives</b>												
Catey Regular Clear Solvent Cement	7.62	0.02400	2.500	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00
676 High Strength Adhesive	6.65	0.03900	2.500	25.00%	0.00%	0.00%	0.00%	0.71	0.00	0.00	0.00	0.71
Expanding Foam-B	8.60	0.03000	2.500	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00
DAP Weldwood Carpenter's Glue	9.10	0.02000	2.500	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00
<b>Paints</b>												
3M Primer	6.84	0.00400	2.500	0.00%	35.00%	10.00%	0.00%	0.00	0.10	0.03	0.00	0.13
<b>Cleaners/Thinners</b>												
Crazy Clean All Purpose Cleaner	8.35	0.07100	2.500	0.00%	0.00%	0.00%	4.65%	0.00	0.00	0.00	0.30	0.30
Mineral Spirits	6.58	0.00200	2.500	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00
Cycto Glass Cleaner	8.16	0.01700	2.500	0.00%	0.00%	0.00%	5.00%	0.00	0.00	0.00	0.08	0.08
<b>Caulks/Sealants</b>												
502 LSD HAPs Free Lap Sealant	9.92	0.42100	2.500	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00
502 LSD HAPs Free Lap Sealant	9.92	0.16400	2.500	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00
502 LSD HAPs Free Lap Sealant	9.92	0.06000	2.500	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00
Bowman/RTV Silicone	8.60	0.06000	2.500	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00

<b>METHODOLOGY</b>	PM	PM10	VOC	HAPs
HAPS emission rate (tons/yr) = Density (lbs/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr / 1 ton/2000 lbs			<b>Total per Booth</b>	
			<b>0.710</b>	
			<b>0.105</b>	
			<b>0.030</b>	
			<b>0.378</b>	
			<b>1.22</b>	
			<b>0.710</b>	
			<b>0.210</b>	
			<b>0.060</b>	
			<b>0.756</b>	
			<b>2.45</b>	
<b>Total (tons/yr)</b>				
<b>Line 1</b>	<b>0.430</b>	<b>0.430</b>	<b>27.4</b>	<b>1.25</b>
<b>Line 2</b>	<b>0.430</b>	<b>0.430</b>	<b>27.4</b>	<b>1.25</b>

**Appendix A: Emissions Calculations**  
**VOC, Particulate and HAPs from Surface Coating Operations**  
**Line 3**

**Company Name: R-Vision Motorized LLC**  
**Address City IN Zip: 2666 South County Club Road, Warsaw, Indiana 46580**  
**FESOP Renewal: F 085-23438-00078**  
**Reviewer: CarrieAnn Paukowitz**  
**Date: July 27, 2007**

Material	Density (lbs/gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum per Line (units/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC (pounds per hour)	Potential VOC (pounds per day)	Potential VOC (tons per year)	Particulate Potential (tons/yr)	lbs VOC/gal solids	Transfer Efficiency	Material
<b>Adhesives</b>																	
Oatey Regular Clear Solvent Cement	7.62	90.00%	2.5%	87.5%	2.5%	12.00%	0.02400	2.500	6.84	6.67	0.40	9.60	1.75	0.00	N/A	100%	plastic
Staput III H Cylinder 140 lbs	6.18	80.50%	25.0%	55.5%	25.0%	22.80%	0.10000	2.500	4.57	3.43	0.86	20.58	3.76	0.66	15.04	50%	m.p.f
Expanding Foam-A	10.26						0.03000	2.500			see below	see below	see below	0.00		100%	m.p.f
Expanding Foam-B	8.60	6.00%	5.0%	1.0%	5.0%	99.00%	0.03000	2.500	0.09	0.09	0.01	0.15	0.03	0.00	0.09	100%	m.p.f
Mor-ad Water Reactive Adhesive M-664	9.01	0.00%	0.0%	0.0%	0.0%	0.00%	0.00000	2.500	0.00	0.00	0.00	0.00	0.00	0.00	N/A	100%	m.p.f
DAP Weldwood Carpenter's Glue	9.10	50.10%	50.0%	0.1%	45.0%	50.00%	0.02000	2.500	0.017	0.009	0.00	0.01	0.00	0.00	0.02	100%	wood
Pur_Fect Lock Adhesive	9.90						0.30000	2.500			see below	see below	see below	0.00		100%	m.p.f
Urethane Laminating Adhesive(Mor-ad 1105)	8.00						0.70000	2.500			see below	see below	see below	0.00		100%	m.p.f
<b>Paints</b>																	
3M Primer	6.84	94.00%	0.0%	94.0%	0.0%	6.00%	0.00400	2.500	6.43	6.43	0.06	1.54	0.28	0.01	107.16	50%	fiberglass
<b>Cleaners/Thinners</b>																	
Crazy Clean All Purpose Cleaner	8.35	100.00%	91.5%	8.50%	91.5%	100.00%	0.07100	2.500	8.35	0.71	0.13	3.02	0.55	0.00	0.71	100%	m.p.f
Mineral Spirits	6.58	100.00%	0.0%	100.0%	0.0%	0.00%	0.00200	2.500	6.58	6.58	0.03	0.79	0.14	0.00	N/A	100%	fiberglass
Cyclo Glass Cleaner	8.16	99.90%	87.9%	12.0%	88.0%	0.00%	0.01700	2.500	8.16	0.98	0.04	1.00	0.18	0.00	N/A	50%	m.p.f
Handi-Foam Cleaner	10.02						0.00900	2.500			see below	see below	see below	0.00		100%	fiberglass
<b>Caulks/Sealants</b>																	
502 LSD HAPs Free Lap Sealant	9.92	32.50%	0.0%	32.5%	0.0%	67.50%	0.42100	2.500	3.22	3.22	3.39	81.44	14.86	0.00	4.78	100%	m.p.f
502 LSD HAPs Free Lap Sealant	9.92	32.50%	0.0%	32.5%	0.0%	67.50%	0.16400	2.500	3.22	3.22	1.32	31.72	5.79	0.00	4.78	100%	m.p.f
502 LSD HAPs Free Lap Sealant	9.92	32.50%	0.0%	32.5%	0.0%	67.50%	0.06000	2.500	3.22	3.22	0.48	11.61	2.12	0.00	4.78	100%	m.p.f
CX-25 Urethane White Sealant	9.18	5.00%	0.0%	5.0%	0.0%	85.00%	0.01500	2.500	0.46	0.46	0.02	0.41	0.08	0.00	0.54	100%	m.p.f
<b>Paint Prep Plant 3</b>																	
Body Filler 6370	10.80						0.00273	2.000			see below	see below	see below	see below		50%	fiberglass
Rubbing Compound 711	9.18	75.00%	25.0%	50.0%	25.0%	25.00%	0.00273	2.000	6.12	4.59	0.03	0.60	0.11	0.03	18.36	50%	fiberglass
Acrylic Color Blender	7.78	100.00%	10.0%	90.0%	0.0%	0.00%	0.00391	2.000	7.00	7.00	0.05	1.31	0.24	0.00	N/A	100%	fiberglass
Gelcoat Black VS-4	11.26						0.00039	2.000			see below	see below	see below	see below		50%	fiberglass
Gelcoat White VS-4	11.26						0.00078	2.000			see below	see below	see below	see below		50%	fiberglass
MEK Peroxide	9.17	22.00%	0.0%	22.0%	0.0%	97.00%	0.00039	2.000	2.02	2.02	0.00	0.04	0.01	0.00	2.08	100%	fiberglass

**METHODOLOGY**  
 m.p.f = metal/plastic/fiberglass  
 Pounds of VOC per Gallon Coating less Water = (Density (lbs/gal) \* Weight % Organics) / (1-Volume % water)  
 Pounds of VOC per Gallon Coating = (Density (lbs/gal) \* Weight % Organics)  
 Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lbs/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr)  
 Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lbs/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (24 hrs/day)  
 Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lbs/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (8760 hrs/yr) \* (1 ton/2000 lbs)  
 Particulate Potential Tons per Year = (units/hour) \* (gal/unit) \* (lbs/gal) \* (1-Transfer efficiency) \* (8760 hrs/yr) \* (1 ton/2000 lbs)  
 Pounds VOC per Gallon of Solids = (Density (lbs/gal) \* Weight % organics) / (Volume % solids)

METHOD	PM	Control Efficiency	0.00%	Uncontrolled Emissions	6.83	163.84	29.90	0.697
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**Styrene Calculations**

Material (Resin or Gel Name)	Density (Lb/gal)	Weight % Monomer	Gal of Mat. (gal/unit)	Maximum usage (unit/hour)	UEF (lbs monomer/lb resin or gel)	Potential VOC/HAP (pounds per day)	Potential VOC/HAP (tons per year)	Transfer Efficiency	Potential PM (tons/year)
<b>Paint Prep Plant 3</b>									
Body Filler 6370	10.80	40.00%	0.00273	2.500	123	0.109	0.020	50.00%	0.097
Gelcoat Black VS-4	11.26	30.00%	0.00039	2.500	75.6	0.010	0.002	50.00%	0.017
Gelcoat White VS-4	11.26	30.00%	0.00078	2.500	75.6	0.020	0.004	50.00%	0.034
<b>Total</b>							<b>0.025</b>		<b>0.147</b>

**METHODOLOGY**  
 Assume all of the monomer is styrene  
 Emission factors based on the type of application from "Unfilled Emission Factors for Open Molding of Composites," Composites Fabricators Association (April 1996)  
 Potential VOC (lb/day) for resins or gels = Density (lb material / gal material) \* Gal of material (gal material/unit) \* Maximum usage (unit/hr) \* UEF (lb styrene/lb material) \* 24 hrs/day \* 1 ton material/2000 lbs material  
 Potential VOC (ton/year) = Potential VOC (lb/day) \* 365 days/year \* (1 ton/2000 lbs)  
 Potential PM (ton/year) = Density \* (1-Weight % monomer or VOC) \* Gal of Material \* Maximum Usage \* (1-transfer efficiency) \* 24 hrs/day \* 365 days/year \* (1 ton/2000 lbs)

**MDI Emissions**

$W = 25.4 \times VP_{md} \times (Mw / T_{proc}) \times (u)^{0.725} \times Sa \times t_{TF}$   
 W = evaporation losses in g/day  
 $VP_{md}$  = the vapor pressure of MDI in atmospheres @ the process temperature  
 $T_{proc}$  = the process temperature in °F  
 Mw = the molecular weight of MDI  
 u = the airflow speed in m/s  
 $t_{TF}$  = the "back free" time in seconds  
 Sa = surface area

	Expanding Foam-A	Mor-ad Water Reactive Adhesive M-664	Pur_Fect Lock Adhesive	Urethane Laminating Adhesive(Mor-ad 1105)	Handi-Foam Cleaner	Total Emissions
Hourly product production rate	2.5 products/hour	2.5 products/hour	2.5 products/hour	2.5 products/hour	2.5 products/hour	
Sa coated per part	1.00 m <sup>2</sup>	10.00 m <sup>2</sup>	10.00 m <sup>2</sup>	10.00 m <sup>2</sup>	0.10 m <sup>2</sup>	
Sa/day	60.00	600.00	600.00	600.00	6.00	
Applicator surface area	1.00 m <sup>2</sup>	1.00 m <sup>2</sup>	1.00 m <sup>2</sup>	1.00 m <sup>2</sup>	0.10 m <sup>2</sup>	
Airflow rate (scfm)	10.00 scfm	10.00 scfm	10.00 scfm	10.00 scfm	10.00 scfm	
U	0.05 m/s	0.05 m/s	0.05 m/s	0.05 m/s	0.51 m/s	
$t_{TF}$	600 seconds	600 seconds	600 seconds	600 seconds	600 seconds	
$T_{proc}$	70 Fahrenheit	70 Fahrenheit	70 Fahrenheit	70 Fahrenheit	70 Fahrenheit	
$T_{proc}$	294 Kelvin	294 Kelvin	294 Kelvin	294 Kelvin	294 Kelvin	
MW	250.26	250.26	250.26	250.26	250.26	
Weight % MDI	70.00%	14.0%	2.3%	11.4%	30.0%	
Vapor Pressure of the weight % MDI @ $T_{proc}$	5.68E-09 atmospheres	1.14E-09 atmospheres	1.87E-10 atmospheres	9.25E-10 atmospheres	2.43E-09 atmospheres	
MDI Emissions	0.00043 g/day	0.00096 g/day	0.00014 g/day	0.00070 g/day	0.00011 g/day	0.00233 g/day
Totals	0.00035 tons/year	0.00070 tons/year	0.00011 tons/year	0.00057 tons/year	0.00009 tons/year	0.0018 tons/year

**Methodology**  
 Emission factors are from the MDI/Polymeric MDI Emissions Reporting Guidelines For the Polyurethane Industry from www.polyurethane.org  
 % MDI (4,4'-Diphenylmethane Diisocyanate) is from Material Safety Data Sheets (MSDS)

**HAPs Emissions**

Material	Density (lbs/gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Hexane	Weight % Xylenes	Weight % Ethyl Benzene	Weight % Glycol Ethers	Weight % Dimethyl phthalate	Hexane Emissions (tons/yr)	Xylenes Emissions (tons/yr)	Benzene Emissions (tons/yr)	Glycol Ethers Emissions (tons/yr)	Dimethyl phthalate Emissions (tons/yr)	Total HAPs Emissions (tons/yr)
<b>Adhesives</b>														
Oatey Regular Clear Solvent Cement	7.62	0.02400	2.500	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
Staput III H Cylinder 140 lbs	6.18	0.10000	2.500	7.00%	0.00%	0.00%	0.00%	0.00%	0.47	0.00	0.00	0.00	0.00	0.47
Expanding Foam-B	8.60	0.03000	2.500	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
DAP Weldwood Carpenter's Glue	9.10	0.02000	2.500	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
<b>Paints</b>														
3M Primer	6.84	0.00400	2.500	0.00%	35.00%	10.00%	0.00%	0.00%	0.00	0.10	0.03	0.00	0.00	0.13
<b>Cleaners/Thinners</b>														
Crazy Clean All Purpose Cleaner	8.35	0.07100	2.500	0.00%	0.00%	0.00%	4.65%	0.00%	0.00	0.00	0.00	0.30	0.00	0.30
Mineral Spirits	6.58	0.00200	2.500	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
Cyclo Glass Cleaner	8.16	0.01700	2.500	0.00%	0.00%	0.00%	5.00%	0.00%	0.00	0.00	0.00	0.08	0.00	0.08
Handi-Foam Cleaner	10.02	0.00900	2.500	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
<b>Caulks/Sealants</b>														
502 LSD HAPs Free Lap Sealant	9.92	0.42100	2.500	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
502 LSD HAPs Free Lap Sealant	9.92	0.16400	2.500	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
502 LSD HAPs Free Lap Sealant	9.92	0.06000	2.500	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
CX-25 Urethane White Sealant	9.18	0.01500	2.500	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
<b>Final Finish</b>														
Rubbing Compound 711	9.18	0.00273	2.000	0.00%	1.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
Acrylic Color Blender	7.78	0.00391	2.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
MEK Peroxide	9.17	0.00039	2.000	0.00%	0.00%	0.00%	0.00%	43.00%	0.00	0.00	0.00	0.00	0.01	0.01
<b>Totals</b>									<b>0.474</b>	<b>0.107</b>	<b>0.030</b>	<b>0.378</b>	<b>0.013</b>	<b>1.00</b>

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

Total (tons/yr)	PM	PM10	VOC	HAPs
Line 3	0.844	0.844	29.9	1.03

**Appendix A: Emissions Calculations:  
VOC, Particulate and HAPs from Surface Coating Operations:  
Line 4**

**Company Name: R-Vision Motorized LLC  
Address City IN Zip: 2666 South Country Club Road, Warsaw, Indiana 46581  
FESOP Renewal: F 085-23438-00078  
Reviewer: CarrieAnn Paukowitz  
Date: July 27, 2007**

Material	Density (lbs/gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum per Line (units/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC (pounds per hour)	Potential VOC (pounds per day)	Potential VOC (tons per year)	Particulate Potential (tons/yr)	lbs VOC/gal solids	Transfer Efficiency	Material	
<b>Adhesives</b>																		
Oatey Regular Clear Solvent Cement	7.62	90.00%	2.5%	87.5%	2.5%	12.00%	0.02400	2,000	6.84	6.67	0.32	7.68	1.40	0.00	N/A	100%	plastic	
676 High Strength Adhesive	6.65	77.20%	25.0%	52.2%	12.4%	22.80%	0.03900	2,000	3.96	3.47	0.27	6.50	1.19	0.26	15.23	50%	m.p.f	
Expanding Foam-A	10.26	1.00%	0.0%	1.0%	0.0%	99.00%	0.03000	2,000	0.10	0.10	0.01	0.15	0.03	0.00	0.10	100%	m.p.f	
Expanding Foam-B	8.60	6.00%	5.0%	1.0%	5.0%	99.00%	0.03000	2,000	0.09	0.09	0.01	0.12	0.02	0.00	0.09	100%	m.p.f	
Mor-ad Water Reactive Adhesive M-664							6.00000	2,000			see below	see below	see below	0.00			100%	m.p.f
DAP Weldwood Carpenter's Glue	9.10	50.10%	50.0%	0.1%	45.0%	100.00%	0.02000	2,000	0.017	0.009	0.00	0.01	0.00	0.00	0.01	100%	wood	
Pur Fect Lock Adhesive							0.30000	2,000			see below	see below	see below	0.00			100%	m.p.f
Urethane Laminating Adhesive(Mor-ad 1105)							0.70000	2,000			see below	see below	see below	0.00			100%	m.p.f
<b>Paints</b>																		
3M Primer	6.84	94.00%	0.0%	94.0%	0.0%	6.00%	0.00400	2,000	6.43	6.43	0.05	1.23	0.23	0.01	107.16	50%	fiberglass	
<b>Cleaners/Thinners</b>																		
Crazy Clean All Purpose Cleaner	8.35	100.00%	91.5%	8.50%	91.5%	0.00%	0.07100	2,000	8.35	0.71	0.10	2.42	0.44	0.00	N/A	100%	m.p.f	
Mineral Spirits	6.58	100.00%	0.0%	100.0%	0.0%	0.00%	0.00200	2,000	6.58	6.58	0.03	0.63	0.12	0.00	N/A	100%	fiberglass	
Cyco Glass Cleaner	8.16	99.90%	87.9%	12.0%	88.0%	0.00%	0.01700	2,000	8.16	0.98	0.03	0.80	0.15	0.00	N/A	50%	m.p.f	
Handi-Foam Cleaner	10.02						0.00900	2,000	0.00	0.00	0.00	0.00	0.00	0.00	N/A	100%	fiberglass	
<b>Caulks/Sealants</b>																		
502 LSD HAPs Free Lap Sealant	9.92	32.50%	0.0%	32.5%	0.0%	67.50%	0.42100	2,000	3.22	3.22	2.71	65.15	11.89	0.00	4.78	100%	m.p.f	
502 LSD HAPs Free Lap Sealant	9.92	32.50%	0.0%	32.5%	0.0%	67.50%	0.16400	2,000	3.22	3.22	1.06	26.38	4.63	0.00	4.78	100%	m.p.f	
502 LSD HAPs Free Lap Sealant	9.92	32.50%	0.0%	32.5%	0.0%	67.50%	0.06000	2,000	3.22	3.22	0.39	9.29	1.69	0.00	4.78	100%	m.p.f	
CX-25 Urethane White Sealant	9.18	5.00%	0.0%	5.0%	0.0%	85.00%	0.01500	2,000	0.46	0.46	0.01	0.33	0.06	0.00	0.54	100%	m.p.f	
<b>Paint Prep Plant 3</b>																		
Body Filler 6370	10.80						0.00273	2,000			see below	see below	see below	see below			50%	fiberglass
Rubbing Compound 711	9.18	75.00%	25.0%	50.0%	25.0%	25.00%	0.00273	2,000	6.12	4.59	0.03	0.60	0.11	0.03	18.36	50%	fiberglass	
Acrylic Color Blender	7.78	100.00%	10.0%	90.0%	12.0%	0.00%	0.00391	2,000	7.96	7.00	0.05	1.31	0.24	0.00	N/A	100%	fiberglass	
Gelcoat Black VS-4	11.26						0.00039	2,000			see below	see below	see below	see below			50%	fiberglass
Gelcoat White VS-4	11.26						0.00078	2,000			see below	see below	see below	see below			50%	fiberglass
MEK Peroxide	9.17	22.00%	0.0%	22.0%	0.0%	97.00%	0.00039	2,000	2.02	2.02	0.00	0.04	0.01	0.00	2.08	100%	fiberglass	

**METHODOLOGY**  
 m,p,l = metal,plastic, fiberglass  
 Pounds of VOC per Gallon Coating less Water = (Density (lbs/gal) \* Weight % Organics) / (1-Volume % water)  
 Pounds of VOC per Gallon Coating = (Density (lbs/gal) \* Weight % Organics)  
 Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lbs/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) (24 hrs/day)  
 Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lbs/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (8760 hrs/yr) \* (1 ton/2000 lbs)  
 Particulate Potential Tons per Year = (units/hour) \* (gal/unit) \* (1-Weight % Volatiles) \* (1-Transfer efficiency) (8760 hrs/yr) \* (1 ton/2000 lbs)  
 Pounds VOC per Gallon of Solids = (Density (lbs/gal) \* Weight % organics) / (Volume % solids)

METHODOLOGY	PM	Control Efficiency	0.00%	5.07	121.64	22.20	0.294
<b>Uncontrolled Totals</b>							

**Styrene Calculations**

Material (Resin or Gel Name)	Density (Lb/Gal)	Weight % Monomer	Gal of Mat. (gal/unit)	Maximum usage (unit/hour)	UEF (lbs monomer/ton resin or gel)	Potential VOC/HAP (pounds per day)	Potential VOC/HAP (tons per year)	Transfer Efficiency	Potential PM (tons year)
<b>Paint Prep Plant 3</b>									
Body Filler 6370	10.80	40.00%	0.00273	2,000	123	0.087	0.016	50.00%	0.077
Gelcoat Black VS-4	11.26	30.00%	0.00039	2,000	75.6	0.008	0.001	50.00%	0.013
Gelcoat White VS-4	11.26	30.00%	0.00078	2,000	75.6	0.016	0.003	50.00%	0.027
<b>Total</b>						<b>0.020</b>			<b>0.118</b>

**METHODOLOGY**  
 Assume all of the monomer is styrene.  
 Emission factors based on the type of application from "Unfilled Emission Factors for Open Molding of Composites," Composites Fabricators Association (April 1999)  
 Potential VOC (lb/day) for resins or gels = Density (lb material/gal material) \* Gal of material (gal material/unit) \* Maximum usage (unit/hr) \* UEF (lb styrene/mol material) \* 24 hrs/day \* 1 ton material/2000 lbs material  
 Potential VOC (ton/year) = Potential VOC (lb/day) \* 365 days/year \* (1 ton/2000 lb)  
 Potential PM (ton/year) = Density \* (1 - Weight % monomer or VOC) \* Gal of Material \* Maximum Usage \* (1 - transfer efficiency) \* 24 hrs/day \* 365 days/year \* (1 ton/2000 lb)

**MDI Emissions**

$$W = 25.4 \times VP_{MDI} \times (Mw / T_{proc}) \times (U)^{0.75} \times Sa \times t_{TF}$$

W = evaporation losses in g/day  
 VP<sub>MDI</sub> = the vapor pressure of MDI in atmospheres @ the process temperature  
 T<sub>proc</sub> = the process temperature in K  
 Mw = the molecular weight of MD  
 u = the airflow speed in m/s  
 t<sub>TF</sub> = the "back free" time in second;  
 Sa = surface area

	Expanding Foam-A	Mor-ad Water Reactive Adhesive M-664	Pur Fect Lock Adhesive	Urethane Laminating Adhesive(Mor-ad 1105)	Handi-Foam Cleaner
Hourly product production rate	2.0 products/hour	2.0 products/hour	2.0 products/hour	2.0 products/hour	2.0 products/hour
Sa coated per part	1.00 m <sup>2</sup>	10.00 m <sup>2</sup>	10.00 m <sup>2</sup>	10.00 m <sup>2</sup>	0.10 m <sup>2</sup>
Sa/day	48.00	480.00	480.00	480.00	4.80
Applicator surface area	1.00 m <sup>2</sup>	1.00 m <sup>2</sup>	1.00 m <sup>2</sup>	1.00 m <sup>2</sup>	0.10 m <sup>2</sup>
Airflow rate (scfm)	10.00 scfm	10.00 scfm	10.00 scfm	10.00 scfm	10.00 scfm
U	0.05 m/s	0.05 m/s	0.05 m/s	0.05 m/s	0.51 m/s
t <sub>TF</sub>	600 seconds	600 seconds	600 seconds	600 seconds	600 seconds
T <sub>proc</sub>	70 Fahrenheit	70 Fahrenheit	70 Fahrenheit	70 Fahrenheit	70 Fahrenheit
T <sub>proc</sub>	294 Kelvin	294 Kelvin	294 Kelvin	294 Kelvin	294 Kelvin
Mw	250.26	250.26	250.26	250.26	250.26
Weight % MDI	70.00%	14.0%	2.3%	11.4%	30.0%
Vapor Pressure of the weight % MDI @ T <sub>proc</sub>	5.68E-09 atmospheres	1.14E-09 atmospheres	1.87E-10 atmospheres	9.25E-10 atmospheres	2.43E-09 atmospheres
MDI Emissions	0.00035 g/day	0.00069 g/day	0.00011 g/day	0.00056 g/day	0.00009 g/day
Totals	0.00028 tons/year	0.00056 tons/year	0.00009 tons/year	0.00045 tons/year	0.00007 tons/year

**Methodology**  
 Emission factors are from the MDI/Polymeric MDI Emissions Reporting Guidelines For the Polyurethane Industry from www.polyurethane.org.  
 % MDI (4,4'-Diphenylmethane Diisocyanate) is from Material Safety Data Sheets (MSDS)

**HAPs Emissions**

Material	Density (lbs/gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Hexane	Weight % Xylenes	Weight % Ethyl Benzene	Weight % Glycol Ethers	Weight % Dimethyl phthalate	Hexane Emissions (tons/yr)	Xylenes Emissions (tons/yr)	Benzene Emissions (tons/yr)	Glycol Ethers Emissions (tons/yr)	Dimethyl phthalate Emissions (tons/yr)	Total HAPs Emissions (tons/yr)
<b>Adhesives</b>														
Oatey Regular Clear Solvent Cement	7.62	0.02400	2,000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
676 High Strength Adhesive	6.65	0.03900	2,000	25.00%	0.00%	0.00%	0.00%	0.00%	0.57	0.00	0.00	0.00	0.00	0.57
Expanding Foam-B	8.60	0.03000	2,000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
DAP Weldwood Carpenter's Glue	9.10	0.02000	2,000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
<b>Paints</b>														
3M Primer	6.84	0.00400	2,000	0.00%	35.00%	10.00%	0.00%	0.00%	0.00	0.08	0.02	0.00	0.00	0.11
<b>Cleaners/Thinners</b>														
Crazy Clean All Purpose Cleaner	8.35	0.07100	2,000	0.00%	0.00%	0.00%	4.65%	0.00%	0.00	0.00	0.00	0.24	0.00	0.24
Mineral Spirits	6.58	0.00200	2,000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
Cyco Glass Cleaner	8.16	0.01700	2,000	0.00%	0.00%	0.00%	5.00%	0.00%	0.00	0.00	0.00	0.06	0.00	0.06
<b>Caulks/Sealants</b>														
502 LSD HAPs Free Lap Sealant	9.92	0.42100	2,000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
502 LSD HAPs Free Lap Sealant	9.92	0.16400	2,000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
502 LSD HAPs Free Lap Sealant	9.92	0.06000	2,000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
CX-25 Urethane White Sealant	9.18	0.01500	2,000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
<b>Final Finish</b>														
Rubbing Compound 711	9.18	0.00273	2,000	0.00%	1.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
Acrylic Color Blender	7.78	0.00391	2,000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
MEK Peroxide	9.17	0.00039	2,000	0.00%	0.00%	0.00%	0.00%	43.00%	0.00	0.00	0.00	0.00	0.01	0.01

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

Total (tons/yr)	PM	PM10	VOC	HAPs
<b>Line 4</b>	<b>0.412</b>	<b>0.412</b>	<b>22.2</b>	<b>1.82</b>

**Appendix A: Emissions Calculations**  
**VOC, Particulate and HAPs from Surface Coating Operations**  
**Line 5**

**Company Name: R-Vision Motorized LLC**  
**Address City IN Zip: 2666 South County Club Road, Warsaw, Indiana 46580**  
**FESOP Renewal: F 085-23438-00078**  
**Reviewer: CarrieAnn Paukowitz**  
**Date: July 27, 2007**

Material	Density (lbs/gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum per Line (units/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC (pounds per hour)	Potential VOC (pounds per day)	Potential VOC (tons per year)	Particulate Potential (tons/yr)	lbs VOC/gal solids	Transfer Efficiency	Material	
<b>Adhesives</b>																		
Oatey Regular Clear Solvent Cement	7.62	90.00%	2.5%	87.5%	2.5%	12.00%	0.02400	2.000	6.84	6.67	0.32	7.68	1.40	0.00	N/A	100%	plastic	
676 High Strength Adhesive	6.65	77.20%	25.0%	52.2%	12.4%	22.80%	0.03900	2.000	3.96	3.47	0.27	6.50	1.19	0.26	15.23	50%	m.p.f	
Expanding Foam-A	10.26	1.00%	0.0%	1.0%	0.0%	99.00%	0.03000	2.000	0.10	0.10	0.01	0.15	0.03	0.00	0.10	100%	m.p.f	
Expanding Foam-B	8.60	6.00%	5.0%	1.0%	5.0%	99.00%	0.03000	2.000	0.09	0.09	0.01	0.12	0.02	0.00	0.09	100%	m.p.f	
Mor-ad Water Reactive Adhesive M-664							6.00000	2.000			see below	see below	see below	0.00			100%	m.p.f
DAP Weldwood Carpenter's Glue	9.10	50.10%	50.0%	0.1%	45.0%	50.00%	0.02000	2.000	0.017	0.009	0.00	0.01	0.00	0.00	0.02	100%	wood	
Pur Fact Lock Adhesive							0.30000	2.000			see below	see below	see below	0.00			100%	m.p.f
Urethane Laminating Adhesive(Mor-ad 1105)							0.70000	2.000			see below	see below	see below	0.00			100%	m.p.f
<b>Paints</b>																		
3M Primer	6.84	94.00%	0.0%	94.0%	0.0%	6.00%	0.00400	2.000	6.43	6.43	0.05	1.23	0.23	0.01	107.16	50%	fiberglass	
<b>Cleaners/Thinners</b>																		
Crazy Clean All Purpose Cleaner	8.35	100.00%	91.5%	8.50%	91.5%	0.00%	0.07100	2.000	8.35	0.71	0.10	2.42	0.44	0.00	N/A	100%	m.p.f	
Mineral Spirits	6.58	100.00%	0.0%	100.0%	0.0%	0.00%	0.00200	2.000	6.58	6.58	0.03	0.63	0.12	0.00	N/A	100%	fiberglass	
Cyco Glass Cleaner	8.16	99.90%	87.9%	12.0%	88.0%	0.00%	0.01700	2.000	8.16	0.98	0.03	0.80	0.15	0.00	N/A	50%	m.p.f	
Handi-Foam Cleaner	10.02						0.00900	2.000			see below	see below	see below	0.00	N/A	100%	fiberglass	
<b>Caulks/Sealants</b>																		
502 LSD HAPs Free Lap Sealant	9.92	32.50%	0.0%	32.5%	0.0%	67.50%	0.42100	2.000	3.22	3.22	2.71	65.15	11.89	0.00	4.78	100%	m.p.f	
502 LSD HAPs Free Lap Sealant	9.92	32.50%	0.0%	32.5%	0.0%	67.50%	0.16400	2.000	3.22	3.22	1.06	25.38	4.63	0.00	4.78	100%	m.p.f	
502 LSD HAPs Free Lap Sealant	9.92	32.50%	0.0%	32.5%	0.0%	67.50%	0.06000	2.000	3.22	3.22	0.39	9.29	1.69	0.00	4.78	100%	m.p.f	
Bowman/RTV Silicone	8.67	3.00%	0.0%	3.00%	0.0%	85.00%	0.06000	2.000	0.26	0.26	0.03	0.75	0.14	0.00	0.31	100%	m.p.f	
<b>Final Finish</b>																		
Body Filler 6370	10.80						0.00273	2.000			see below	see below	see below	see below			50%	fiberglass
Rubbing Compound 711	9.18	75.00%	25.0%	50.0%	25.0%	25.00%	0.00273	2.000	6.12	4.59	0.03	0.60	0.11	0.03	18.36	50%	fiberglass	
Acrylic Color Blender	7.78	100.00%	10.0%	90.0%	12.0%	0.00%	0.00391	2.000	7.96	7.00	0.05	1.31	0.24	0.00	N/A	100%	fiberglass	
Gelcoat Black VS-4	11.26						0.00039	2.000			see below	see below	see below	see below			50%	fiberglass
Gelcoat White VS-4	11.26						0.00039	2.000			see below	see below	see below	see below			50%	fiberglass
MEK Peroxide	9.17	22.00%	0.0%	22.0%	0.0%	50.40%	0.00039	2.000	2.02	2.02	0.00	0.04	0.01	0.00	4.00	100%	fiberglass	
<b>METHODOLOGY</b>									<b>PM</b>									
m.p.f = metal/plastic/fiberglass									<b>Control Efficiency 0.00%</b>									
Pounds of VOC per Gallon Coating less Water = (Density (lbs/gal) * Weight % Organics) / (1-Volume % water)									<b>Uncontrolled Totals</b>									
Pounds of VOC per Gallon Coating = (Density (lbs/gal) * Weight % Organics)									<b>5.09      122.06      22.28      0.294</b>									
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lbs/gal) * Gal of Material (gal/unit) * Maximum (units/hr)																		
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lbs/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hrs/day)																		
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lbs/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hrs/yr) * (1 ton/2000 lbs)																		
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1-Transfer efficiency) * (8760 hrs/yr) * (1 ton/2000 lbs)																		
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)																		

**METHODOLOGY**

Assume all of the monomer is styrene  
 Emission factors based on the type of application from "Unified Emission Factors for Open Molding of Composites," Composites Fabricators Association (April 1999)  
 Potential VOC (lb/day) for resins or gels = Density (lb material/unit) \* Gal of material (gal material/unit) \* Maximum usage (units/hr) \* UEF (lb styrene/ton material) \* 24 hrs/day \* 1 ton material/2000 lbs material  
 Potential VOC (ton/year) = Potential VOC (lb/day) \* 365 days/year \* (1 ton/2000 lb)  
 Potential PM (ton/year) = Density \* (1 - Weight % monomer or VOC) \* Gal of Material \* Maximum Usage \* (1 - transfer efficiency) \* 24 hrs/day \* 365 days/year \* (1 ton/2000 lb)  
 Pounds VOC per Gallon of Solids = (Density (lbs/gal) \* Weight % organics) / (Volume % solids)

**Styrene Calculations**

Material (Resin or Gel Name)	Density (Lb/gal)	Weight % Monomer	Gal of Mat. (gal/unit)	Maximum usage (unit/hour)	UEF (lb styrene/ton resin or gel)	Potential VOC/HAP (pounds per day)	Potential VOC/HAP (tons per year)	Transfer Efficiency	Potential PM (tons/year)
<b>Final Finish</b>									
Body Filler 6370	10.80	40.00%	0.00273	2.000	123	0.087	0.016	50.00%	0.077
Gelcoat Black VS-4	11.26	30.00%	0.00039	2.000	75.6	0.008	0.001	50.00%	0.013
Gelcoat White VS-4	11.26	30.00%	0.00078	2.000	75.6	0.016	0.003	50.00%	0.027
<b>Total</b>						<b>0.020</b>			<b>0.118</b>

**METHODOLOGY**

Assume all of the monomer is styrene  
 Emission factors based on the type of application from "Unified Emission Factors for Open Molding of Composites," Composites Fabricators Association (April 1999)  
 Potential VOC (lb/day) for resins or gels = Density (lb material/unit) \* Gal of material (gal material/unit) \* Maximum usage (units/hr) \* UEF (lb styrene/ton material) \* 24 hrs/day \* 1 ton material/2000 lbs material  
 Potential VOC (ton/year) = Potential VOC (lb/day) \* 365 days/year \* (1 ton/2000 lb)  
 Potential PM (ton/year) = Density \* (1 - Weight % monomer or VOC) \* Gal of Material \* Maximum Usage \* (1 - transfer efficiency) \* 24 hrs/day \* 365 days/year \* (1 ton/2000 lb)

**MDI Emissions**

$W = 25.4 \times VP_{MDI} \times (Mw / T_{proc}) \times (U)^{0.75} \times Sa \times t_{TF}$   
 W = evaporation losses in g/day  
 VP<sub>MDI</sub> = the vapor pressure of MDI in atmospheres @ the process temperature  
 T<sub>proc</sub> = the process temperature in °K  
 Mw = the molecular weight of MDI  
 U = the airflow speed in m/s  
 t<sub>TF</sub> = the "back free" time in seconds  
 Sa = surface area

	Expanding Foam-A	Mor-ad Water Reactive Adhesive M-664	Pur Fact Lock Adhesive	Urethane Laminating Adhesive(Mor-ad 1105)	Handi-Foam Cleaner
Hourly product production rate	2.0 products/hour	2.0 products/hour	2.0 products/hour	2.0 products/hour	2.0 products/hour
Sa coated per part	1.00 m <sup>2</sup>	10.00 m <sup>2</sup>	10.00 m <sup>2</sup>	10.00 m <sup>2</sup>	0.10 m <sup>2</sup>
Sa/day	48.00	480.00	480.00	480.00	4.80
Applicator surface area	1.00 m <sup>2</sup>	1.00 m <sup>2</sup>	1.00 m <sup>2</sup>	1.00 m <sup>2</sup>	0.10 m <sup>2</sup>
Airflow rate (scfm)	10.00	10.00	10.00	10.00	10.00
U	0.05 m/s	0.05 m/s	0.05 m/s	0.05 m/s	0.51 m/s
t <sub>TF</sub>	600 seconds	600 seconds	600 seconds	600 seconds	600 seconds
T <sub>proc</sub>	70 Fahrenheit	70 Fahrenheit	70 Fahrenheit	70 Fahrenheit	70 Fahrenheit
T <sub>proc</sub>	294 Kelvin	294 Kelvin	294 Kelvin	294 Kelvin	294 Kelvin
Mw	250.26	250.26	250.26	250.26	250.26
Weight % MDI	70.00%	14.0%	2.3%	11.4%	30.0%
Vapor Pressure of the weight % MDI @ T <sub>proc</sub>	5.68E-09 atmospheres	1.14E-09 atmospheres	1.87E-10 atmospheres	9.25E-10 atmospheres	2.43E-09 atmospheres
MDI Emissions	0.00035 g/day	0.00069 g/day	0.00011 g/day	0.00056 g/day	0.00009 g/day
Totals	0.00028 tons/year	0.00056 tons/year	0.00009 tons/year	0.00045 tons/year	0.00007 tons/year
					<b>Total Emissions</b>
					<b>0.00180 g/day</b>
					<b>0.00145 tons/year</b>

**Methodology**

Emission factors are from the MDI/Polymeric MDI Emissions Reporting Guidelines For the Polyurethane Industry from www.polyurethane.org.  
 % MDI (4,4-Diphenylmethane Diisocyanate) is from Material Safety Data Sheets (MSDS)

**HAPs Emissions**

Material	Density (lbs/gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Hexane	Weight % Xylenes	Weight % Ethyl Benzene	Weight % Glycol Ethers	Weight % Dimethyl phthalate	Hexane Emissions (tons/yr)	Xylenes Emissions (tons/yr)	Benzene Emissions (tons/yr)	Glycol Ethers Emissions (tons/yr)	Dimethyl phthalate Emissions (tons/yr)	Total HAPs Emissions (tons/yr)			
<b>Adhesives</b>																	
Oatey Regular Clear Solvent Cement	7.62	0.02400	2.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00			
676 High Strength Adhesive	6.65	0.03900	2.000	25.00%	0.00%	0.00%	0.00%	0.00%	0.57	0.00	0.00	0.00	0.00	0.57			
Expanding Foam-B	8.60	0.03000	2.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00			
DAP Weldwood Carpenter's Glue	9.10	0.02000	2.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00			
<b>Paints</b>																	
3M Primer	6.84	0.00400	2.000	0.00%	35.00%	10.00%	0.00%	0.00%	0.00	0.08	0.02	0.00	0.00	0.11			
<b>Cleaners/Thinners</b>																	
Crazy Clean All Purpose Cleaner	8.35	0.07100	2.000	0.00%	0.00%	0.00%	4.65%	0.00%	0.00	0.00	0.00	0.24	0.00	0.24			
Mineral Spirits	6.58	0.00200	2.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00			
Cyco Glass Cleaner	8.16	0.01700	2.000	0.00%	0.00%	0.00%	5.00%	0.00%	0.00	0.00	0.00	0.06	0.00	0.06			
<b>Caulks/Sealants</b>																	
502 LSD HAPs Free Lap Sealant	9.92	0.42100	2.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00			
502 LSD HAPs Free Lap Sealant	9.92	0.16400	2.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00			
502 LSD HAPs Free Lap Sealant	9.92	0.06000	2.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00			
Bowman/RTV Silicone	8.60	0.06000	2.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00			
<b>Final Finish</b>																	
Rubbing Compound 711	9.18	0.00273	2.000	0.00%	1.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00			
Acrylic Color Blender	7.78	0.00391	2.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00			
MEK Peroxide	9.17	0.00039	2.000	0.00%	0.00%	0.00%	0.00%	43.00%	0.00	0.00	0.00	0.00	0.01	0.01			
<b>METHODOLOGY</b>									<b>Totals</b>								
									<b>0.568      0.086      0.024      0.302      0.013      0.994</b>								
HAPS emission rate (tons/yr) = Density (lbs/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * Weight % HAP * 8760 hrs/yr * (1 ton/2000 lbs)																	
<b>Total (tons/yr) including MDI</b>	<b>PM</b>	<b>PM10</b>	<b>VOC</b>	<b>HAPs</b>													
<b>Line 5</b>	<b>0.412</b>	<b>0.412</b>	<b>22.3</b>	<b>1.02</b>													

**Appendix A: Emissions Calculations:  
VOC, Particulate and HAPs from Surface Coating Operations:  
Line 6 and Line 7**

**Company Name: R-Vision Motorized LLC  
Address City IN Zip: 2666 South Country Club Road, Warsaw, Indiana 46581  
FESOP Renewal: F 085-23438-00078  
Reviewer: CarrieAnn Paukowitz  
Date: July 27, 2007**

Material	Density (lbs/gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum per Line (units/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC (pounds per hour)	Potential VOC (pounds per day)	Potential VOC (tons per year)	Particulate Potential (tons/yr)	Transfer Efficiency	Material	
<b>Adhesives</b>																	
Oatey Regular Clear Solvent Cement	7.62	90.00%	2.5%	87.5%	2.5%	12.00%	0.02400	2.000	6.84	6.67	0.32	7.68	1.40	0.00	N/A	100%	plastic
676 High Strength Adhesive	6.65	77.20%	25.0%	52.2%	12.4%	22.80%	0.03900	2.000	3.96	3.47	0.27	6.50	1.19	0.26	15.23	50%	m.p.f
Expanding Foam-A	10.26	1.00%	0.0%	1.0%	0.0%	99.00%	0.03000	2.000	0.10	0.10	0.01	0.15	0.03	0.00	0.10	100%	m.p.f
Expanding Foam-B	8.60	6.00%	5.0%	1.0%	5.0%	99.00%	0.03000	2.000	0.09	0.09	0.01	0.12	0.02	0.00	0.09	100%	m.p.f
Morad Water Reactive Adhesive M-664							6.00000	2.000			see below	see below	see below	0.00		100%	m.p.f
DAP Weldwood Carpenter's Glue	9.10	50.10%	50.0%	0.1%	45.0%	50.00%	0.02000	2.000	0.017	0.009	0.00	0.01	0.00	0.00	0.02	100%	wood
Pur Fact Lock Adhesive							0.30000	2.000			see below	see below	see below	0.00		100%	m.p.f
Urethane Laminating Adhesive(Mor-ad 1105)							0.70000	2.000			see below	see below	see below	0.00		100%	m.p.f
<b>Paints</b>																	
3M Primer	6.84	94.00%	0.0%	94.0%	0.0%	6.00%	0.00400	2.000	6.43	6.43	0.05	1.23	0.23	0.01	107.16	50%	fiberglass
<b>Cleaners/Thinners</b>																	
Crazy Clean All Purpose Cleaner	8.35	100.00%	91.5%	8.50%	91.5%	0.00%	0.07100	2.000	8.35	0.71	0.10	2.42	0.44	0.00	N/A	100%	m.p.f
Mineral Spirits	6.58	100.00%	0.0%	100.0%	0.0%	0.00%	0.00200	2.000	6.58	6.58	0.03	0.63	0.12	0.00	N/A	100%	fiberglass
Cyclo Glass Cleaner	8.16	99.90%	87.9%	12.0%	88.0%	0.00%	0.01700	2.000	8.16	0.98	0.03	0.80	0.15	0.00	N/A	50%	m.p.f
Handi-Foam Cleaner	10.02						0.00900	2.000	0.00	0.00	0.00	0.00	0.00	0.00	N/A	100%	fiberglass
<b>Caulks/Sealants</b>																	
502 LSD HAPs Free Lap Sealant	9.92	32.50%	0.0%	32.5%	0.0%	67.50%	0.42100	2.000	3.22	3.22	2.71	65.15	11.89	0.00	4.78	100%	m.p.f
502 LSD HAPs Free Lap Sealant	9.92	32.50%	0.0%	32.5%	0.0%	67.50%	0.16400	2.000	3.22	3.22	1.06	25.38	4.63	0.00	4.78	100%	m.p.f
502 LSD HAPs Free Lap Sealant	9.92	32.50%	0.0%	32.5%	0.0%	67.50%	0.06000	2.000	3.22	3.22	0.39	9.29	1.69	0.00	4.78	100%	m.p.f
Bowman/RTV Silicone	8.67	3.00%	0.0%	3.00%	0.0%	85.00%	0.06000	2.000	0.26	0.26	0.03	0.75	0.14	0.00	0.31	100%	m.p.f
<b>Final Finish</b>																	
Body Filler 6370	10.80						0.00273	2.000			see below	see below	see below	see below		50%	fiberglass

METHODOLOGY	PM	Control Efficiency	0.00%	Uncontrolled per Line	5.00	120.11	21.92	0.267
				<b>Uncontrolled Total for Two (2) Lines</b>	<b>10.01</b>	<b>240.22</b>	<b>43.84</b>	<b>0.534</b>

m.p.f = metal, plastic, fiberglass  
 Pounds of VOC per Gallon Coating less Water = (Density (lbs/gal) \* Weight % Organics) / (1-Volume % water)  
 Pounds of VOC per Gallon Coating = (Density (lbs/gal) \* Weight % Organics)  
 Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lbs/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr)  
 Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lbs/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (24 hrs/day)  
 Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lbs/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (8760 hrs/yr) \* (1 ton/2000 lbs)  
 Particulate Potential Tons per Year = (units/hour) \* (gal/unit) \* (lbs/gal) \* (1-Transfer efficiency) \* (8760 hrs/yr) \* (1 ton/2000 lbs)  
 Pounds VOC per Gallon of Solids = (Density (lbs/gal) \* Weight % organics) / (Volume % solids)

Material (Resin or Gel Name)	Density (Lb/Gal)	Weight % Monomer	Gal of Mat. (gal/unit)	Maximum usage (units/hour)	UEF (lbs monomer/ton resin or gel)	Potential VOC/HAP (pounds per day)	Potential VOC/HAP (tons per year)	Transfer Efficiency	Potential PM (tons/year)
<b>Final Finish</b>									
Body Filler 6370	10.80	40.00%	0.00273	2.000	123	0.09	0.016	50.00%	0.077
<b>Total per Booth</b>							<b>0.016</b>		<b>0.077</b>
<b>Total for two (2) lines</b>							<b>0.032</b>		<b>0.155</b>

**METHODOLOGY**  
 Assume all of the monomer is styrene.  
 Emission factors based on the type of application from "Unfired Emission Factors for Open Molding of Composites," Composites Fabricators Association (April 1999)  
 Potential VOC (lb/day) for resins or gels = Density (lb material/gal material) \* Gal. of material (gal material/unit) \* Maximum usage (units/hr) \* UEF (lb styrene/material) \* 24 hrs/day \* 1 ton material/2000 lbs material  
 Potential VOC (ton/year) = Potential VOC (lb/day) \* 365 days/year \* (1 ton/2000 lb)  
 Potential PM (ton/year) = Density \* (1 - Weight % monomer or VOC) \* Gal. of Material \* Maximum Usage \* (1 - transfer efficiency) \* 24 hrs/day \* 365 days/year \* (1 ton/2000 lb)

**MDI Emissions**  
 $W = 25.4 \times VP_{MDI} \times (Mw / T_{proc}) \times (u)^{1.75} \times Sa \times t_{TF}$   
 W = evaporation losses in g/day  
 VP<sub>MDI</sub> = the vapor pressure of MDI in atmospheres @ the process temperature  
 T<sub>proc</sub> = the process temperature in K  
 Mw = the molecular weight of MD  
 u = the airflow speed in m/s  
 t<sub>TF</sub> = the "lack free" time in second  
 Sa = surface area

	Expanding Foam-A	Mor-ad Water Reactive Adhesive M-664	Pur Fact Lock Adhesive	Urethane Laminating Adhesive(Mor-ad 1105)	Handi-Foam Cleaner
Hourly product production rate	2.0 products/hour	2.0 products/hour	2.0 products/hour	2.0 products/hour	2.0 products/hour
Sa coated per part	1.00 m <sup>2</sup>	10.00 m <sup>2</sup>	10.00 m <sup>2</sup>	10.00 m <sup>2</sup>	0.10 m <sup>2</sup>
Sa/day	48.00	480.00	480.00	480.00	4.80
Applicator surface area	1.00 m <sup>2</sup>	1.00 m <sup>2</sup>	1.00 m <sup>2</sup>	1.00 m <sup>2</sup>	0.10 m <sup>2</sup>
Airflow rate (scfm)	10.00 scfm	10.00 scfm	10.00 scfm	10.00 scfm	10.00 scfm
U	0.05 m/s	0.05 m/s	0.05 m/s	0.05 m/s	0.51 m/s
t <sub>TF</sub>	600 seconds	600 seconds	600 seconds	600 seconds	600 seconds
T <sub>proc</sub>	70 Fahrenheit	70 Fahrenheit	70 Fahrenheit	70 Fahrenheit	70 Fahrenheit
T <sub>proc</sub>	294 Kelvin	294 Kelvin	294 Kelvin	294 Kelvin	294 Kelvin
MW	250.26	250.26	250.26	250.26	250.26
Weight % MDI	70.00%	14.0%	2.3%	11.4%	30.0%
Vapor Pressure of the weight % MDI @ T <sub>proc</sub>	5.68E-09 atmospheres	1.14E-09 atmospheres	1.87E-10 atmospheres	9.25E-10 atmospheres	2.43E-09 atmospheres
MDI Emissions	MDI Emissions	MDI Emissions	MDI Emissions	MDI Emissions	Total Emissions
Each Booth	0.0003 g/day	0.0007 g/day	0.0001 g/day	0.0006 g/day	0.0018 g/day
	0.0003 tons/year	0.0006 tons/year	0.0001 tons/year	0.0005 tons/year	0.0015 tons/year
Total for the Two (2) Booths:	0.0007 g/day	0.0014 g/day	0.0002 g/day	0.0011 g/day	0.0036 g/day
	0.0006 tons/year	0.0011 tons/year	0.0002 tons/year	0.0009 tons/year	0.0029 tons/year

Material	Density (lbs/gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Hexane	Weight % Xylenes	Weight % Ethyl Benzene	Weight % Glycol Ethers	Weight % Dimethyl phthalate	Hexane Emissions (tons/yr)	Xylenes Emissions (tons/yr)	Benzene Emissions (tons/yr)	Glycol Ethers Emissions (tons/yr)	Dimethyl phthalate Emissions (tons/yr)	Total HAPs Emissions (tons/yr)
<b>Adhesives</b>														
Oatey Regular Clear Solvent Cement	7.62	0.02400	2.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
676 High Strength Adhesive	6.65	0.03900	2.000	25.00%	0.00%	0.00%	0.00%	0.00%	0.57	0.00	0.00	0.00	0.00	0.57
Expanding Foam-B	8.60	0.03000	2.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
DAP Weldwood Carpenter's Glue	9.10	0.02000	2.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
<b>Paints</b>														
3M Primer	6.84	0.00400	2.000	0.00%	35.00%	10.00%	0.00%	0.00%	0.00	0.08	0.02	0.00	0.00	0.11
<b>Cleaners/Thinners</b>														
Crazy Clean All Purpose Cleaner	8.35	0.07100	2.000	0.00%	0.00%	0.00%	4.65%	0.00%	0.00	0.00	0.00	0.24	0.00	0.24
Mineral Spirits	6.58	0.00200	2.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
Cyclo Glass Cleaner	8.16	0.01700	2.000	0.00%	0.00%	0.00%	5.00%	0.00%	0.00	0.00	0.00	0.06	0.00	0.06
<b>Caulks/Sealants</b>														
502 LSD HAPs Free Lap Sealant	9.92	0.42100	2.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
502 LSD HAPs Free Lap Sealant	9.92	0.16400	2.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
502 LSD HAPs Free Lap Sealant	9.92	0.06000	2.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
Bowman/RTV Silicone	8.60	0.06000	2.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00

**METHODOLOGY**  
 HAPs emission rate (tons/yr) = Density (lbs/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* Weight % HAP \* 8760 hrs/yr \* 1 ton/2000 lbs  
**Total per Booth** Hexane 0.568, Xylenes 0.084, Benzene 0.024, Glycol Ethers 0.302, Dimethyl phthalate 0.000, Total HAPs 0.978  
**Total for two (2) lines** Hexane 1.136, Xylenes 0.168, Benzene 0.048, Glycol Ethers 0.605, Dimethyl phthalate 0.000, Total HAPs 1.956

Total (tons/yr)	PM	PM10	VOC	HAPs
Line 6	0.344	0.344	21.9	0.995
Line 7	0.344	0.344	21.9	0.995

**Appendix A: Emission Calculations  
Woodworking Operations**

**Company Name: R-Vision Motorized LLC  
Address City IN Zip: 2666 South Country Club Road, Warsaw, Indiana 46580  
FESOP Renewal: F 085-23438-00078  
Reviewer: CarrieAnn Paukowits  
Date: July 27, 2007**

Unit ID	Control Efficiency (%)	Grain Loading per Actual Cubic foot of Outlet Air (grains/cub. ft.)	Gas or Air Flow Rate (acfm)	Emission Rate before Controls (lb/hr)	Emission Rate before Controls (tons/yr)	Emission Rate after Controls (lb/hr)	Emission Rate after Controls (tons/yr)
Wood1.1	80.0%	0.024	4500.0	4.63	20.3	0.926	4.05
Wood2	80.0%	0.014	4500.0	2.70	11.8	0.540	2.37
Wood3	80.0%	0.014	4500.0	2.70	11.8	0.540	2.37
Wood4	80.0%	0.014	4500.0	2.70	11.8	0.540	2.37
Wood5	80.0%	0.014	4500.0	2.70	11.8	0.540	2.37
Wood6	80.0%	0.014	4500.0	2.70	11.8	0.540	2.37
Wood7	80.0%	0.014	4500.0	2.70	11.8	0.540	2.37
<b>Total</b>				<b>15.43</b>	<b>67.58</b>	<b>3.09</b>	<b>13.52</b>

**Methodology**

Emission Rate in lbs/hr (after controls) = (grains/cub. ft.) (sq. ft.) ((cub. ft./min.)/sq. ft.) (60 min/hr) (lb/7000 grains)

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

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

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

**Appendix A: Emission Calculations  
Welding and Thermal Cutting**

**Company Name: R-Vision Motorized LLC  
Address City IN Zip: 2666 South Country Club Road, Warsaw, Indiana 46580  
FESOP Renewal: F 085-23438-00078  
Reviewer: CarrieAnn Paukowits  
Date: July 27, 2007**

PROCESS	Number of Stations	Max. electrode consumption per station (lbs/hr)		EMISSION FACTORS * (lb pollutant / lb electrode)				EMISSIONS (lb/hr)				TOTAL HAPs (lb/hr)
				PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
WELDING												
Metal Inert Gas (MIG)(ER5154)	6	1		0.0241	0.000034		0.00001	0.145	0.000204	0.000000	0.000060	0.0003
Metal Inert Gas (MIG)(ER5154)	1	0.5		0.0241	0.000034		0.00001	0.012	0.000017	0.000000	0.000005	0.0000
FLAME CUTTING	Number of Stations	Max. Metal Thickness Cut (in.)	Max. Metal Cutting Rate (in./minute)	EMISSION FACTORS (lb pollutant/1,000 inches cut, 1" thick)				EMISSIONS (lbs/hr)				TOTAL HAPs (lb/hr)
				PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
Oxyacetylene	1	1	40	0.1622	0.0005	0.0001	0.0003	0.389	0.0002	0.0000	0.0000	0.0002
<b>EMISSION TOTALS</b>								<b>PM = PM10</b>	<b>Mn</b>	<b>Ni</b>	<b>Cr</b>	<b>Total HAPs</b>
Potential Emissions lbs/hr								0.546	0.0004	0.000	0.0001	0.000
Potential Emissions lbs/day								13.10	0.0100	0.000	0.0016	0.012
Potential Emissions tons/year								<b>2.39</b>	0.0018	0.000	0.0003	<b>0.002</b>

**METHODOLGY**

\*Emission Factors are default values for carbon steel unless a specific electrode type is noted in the Process column. Consult AP-42 or other reference for different electrode types.

Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr/station)(emission factor, lb. pollutant/lb. of electrode used)

Cutting emissions, lb/hr: (# of stations)(max. metal thickness, in.)(max. cutting rate, in./min.)(60 min./hr.)(emission factor, lb. pollutant/1,000 in. cut, 1" thick)

Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day

Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/day x 1 ton/2,000 lbs.

Plasma cutting emission factors are from the American Welding Society study published in Sweden (March 1994).

Welding and other flame cutting emission factors are from an internal training session document.

See AP-42, Chapter 12.19 for additional emission factors for welding.

**Appendix A: Emissions Calculations  
Natural Gas Combustion Only  
MM BTU/HR <100**

**Company Name: R-Vision Motorized LLC  
Address City IN Zip: 2666 South Country Club Road, Warsaw, Indiana 46580  
FESOP Renewal: F 085-23438-00078  
Reviewer: CarrieAnn Paukowits  
Date: July 27, 2007**

Four (4) space heaters (H1.1-H1.4) rated at 0.225, 0.125, 0.10, and 0.07:  
Four (4) space heaters (H2.1-H2.4) rated at 0.125 each  
Five (5) space heaters (H2.5-H2.9) rated at 0.20 each  
Five (5) space heaters (H3.1-H3.3, H3.5 and H3.6) rated at 0.15 each  
Seven (7) space heaters (H3.4, H3.7-H3.12) rated at 0.125 each  
Eight (8) space heaters (H4.1-H4.8) rated at 0.10 each  
Eight (8) space heaters (H5.1-H5.8) rated at 0.20 each  
Eight (8) space heaters (H6.1-H6.8) rated at 0.20 each  
Eight (8) space heaters (H7.1-H7.8) rated at 0.20 each

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
9.25	81.03

Pollutant

Emission Factor in lb/MMCF	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.077	0.308	0.024	4.05	0.223	3.40

\*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

\*\*Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

HAPs - Organics

Emission Factor in lb/MMcf	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	0.00009	0.00005	0.00304	0.07293	0.00014

HAPs - Metals

Emission Factor in lb/MMcf	Lead	Cadmium	Chromium	Manganese	Nickel	Total HAPs
	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	
Potential Emission in tons/yr	0.00002	0.00004	0.00006	0.00002	0.00009	0.076

**Methodology**

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

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

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

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

Appendix A: Emission Calculations

Total Emissions Summary

Company Name: R-Vision Motorized LLC  
 Address City IN Zip: 2666 South Country Club Road, Warsaw, Indiana 46580  
 FESOP Renewal: F 085-23438-00078  
 Reviewer: CarrieAnn Paukowitz  
 Date: July 27, 2007

Unrestricted potential emissions

	PM	PM10	SO2	NOx	VOC	CO	Hexane	MDI	Xylenes	Benzene	Glycol Ethers	Styrene	Dimethyl phthalate	Form-aldehyde	Manganese	Total HAPs
Line 1: Assembly1	0.430	0.430	0.000	0.000	27.42	0.000	0.710	0.002	0.105	0.030	0.378	0.020	0.000	0.000	0.000	1.25
Line 2: Assembly2 & L2.1	0.430	0.430	0.000	0.000	27.42	0.000	0.710	0.002	0.105	0.030	0.378	0.020	0.000	0.000	0.000	1.25
Line 3: Assembly3 & L3.1	0.844	0.844	0.000	0.000	29.93	0.000	0.474	0.002	0.107	0.030	0.378	0.025	0.013	0.000	0.000	1.03
Line 4: Assembly4 & L4.1	0.412	0.412	0.000	0.000	22.22	0.000	0.568	0.001	0.086	0.024	0.302	0.020	0.013	0.000	0.000	1.02
Line 5: Assembly5 & L5.1	0.412	0.412	0.000	0.000	22.30	0.000	0.568	0.001	0.086	0.024	0.302	0.020	0.013	0.000	0.000	1.015
Line 6: Assembly6 & L6.1	0.344	0.344	0.000	0.000	21.94	0.000	0.568	0.001	0.084	0.024	0.302	0.016	0.000	0.000	0.000	0.995
Line 7: Assembly7 & L7.1	0.344	0.344	0.000	0.000	21.94	0.000	0.568	0.001	0.084	0.024	0.302	0.016	0.000	0.000	0.000	0.995
Line 1: Wood1.1	20.27	20.27	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Line 2: Wood2	11.83	11.83	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Line 3: Wood3	11.83	11.83	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Line 4: Wood4	11.83	11.83	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Line 5: Wood5	11.83	11.83	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Line 6: Wood6	11.83	11.83	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Line 7: Wood7	11.83	11.83	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Welding & Cutting	2.39	2.39	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002
Combustion	0.077	0.308	0.024	4.052	0.223	3.403	0.073	0.0001	0.000	0.000	0.000	0.000	0.000	0.003	0.000	0.076
<b>Total</b>	<b>96.9</b>	<b>97.1</b>	<b>0.024</b>	<b>4.05</b>	<b>173</b>	<b>3.40</b>	<b>4.24</b>	<b>0.011</b>	<b>0.657</b>	<b>0.186</b>	<b>2.34</b>	<b>0.137</b>	<b>0.040</b>	<b>0.003</b>	<b>0.002</b>	<b>7.62</b>

Limited Potential to Emit

	PM	PM10	SO2	NOx	VOC	CO	Hexane	MDI	Xylenes	Benzene	Glycol Ethers	Styrene	Dimethyl phthalate	Form-aldehyde	Manganese	Total HAPs	
Line 1: Assembly1	0.430	0.430	0.000	0.000	99.7	0.000	0.710	0.002	0.105	0.030	0.378	0.020	0.000	0.000	0.000	1.25	
Line 2: Assembly2 & L2.1	0.430	0.430	0.000	0.000		0.000	0.710	0.002	0.105	0.030	0.378	0.020	0.000	0.000	0.000	0.000	1.25
Line 3: Assembly3 & L3.1	0.844	0.844	0.000	0.000		0.000	0.474	0.002	0.107	0.030	0.378	0.025	0.013	0.000	0.000	0.000	1.03
Line 4: Assembly4 & L4.1	0.412	0.412	0.000	0.000		0.000	0.568	0.001	0.086	0.024	0.302	0.020	0.013	0.000	0.000	0.000	1.02
Line 5: Assembly5 & L5.1	0.412	0.412	0.000	0.000		0.000	0.568	0.001	0.086	0.024	0.302	0.020	0.013	0.000	0.000	0.000	1.02
Line 6: Assembly6 & L6.1	0.344	0.344	0.000	0.000		0.000	0.568	0.001	0.084	0.024	0.302	0.016	0.000	0.000	0.000	0.000	0.995
Line 7: Assembly7 & L7.1	0.344	0.344	0.000	0.000		0.000	0.568	0.001	0.084	0.024	0.302	0.016	0.000	0.000	0.000	0.000	0.995
Line 1: Wood1.1	14.5	20.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Line 2: Wood2	11.8	11.8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Line 3: Wood3	11.8	11.8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Line 4: Wood4	11.8	11.8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Line 5: Wood5	11.8	11.8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Line 6: Wood6	11.8	11.8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Line 7: Wood7	11.8	11.8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Welding & Cutting	2.39	2.39	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	
Combustion	0.077	0.308	0.024	4.05	0.223	3.40	0.073	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.000	0.076	
<b>Total</b>	<b>91.1</b>	<b>97.1</b>	<b>0.024</b>	<b>4.05</b>	<b>99.9</b>	<b>3.40</b>	<b>4.24</b>	<b>0.011</b>	<b>0.657</b>	<b>0.186</b>	<b>2.34</b>	<b>0.137</b>	<b>0.040</b>	<b>0.003</b>	<b>0.002</b>	<b>7.62</b>	

The values in this table represent the unrestricted potential emissions, except for the VOC from Line 1 through Line 7, which is limited by 326 IAC 2-8-4 and PM from Wood1.1 which is limited by 326 IAC 6-3-2.