October 31, 2002

RE: Skyline Corporation 039-16017-00306

TO: Interested Parties / Applicant

FROM: Paul Dubenetzky
Chief, Permits Branch
Office of Air Quality

Notice of Decision: Approval - Effective Immediately

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

If you wish to challenge this decision, IC 4-21.5-3 and IC 13-15-6-1 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, ISTA Building, 150 W. Market Street, Suite 618, Indianapolis, IN 46204, **within (18) eighteen 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 consideration 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.

Enclosure

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We make Indiana a cleaner, healthier place to live.

Frank O'Bannon
Governor

Lori F. Kaplan
Commissioner

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

MINOR SOURCE OPERATING PERMIT
OFFICE OF AIR QUALITY

Skyline Corporation
401 County Road 15 South
Elkhart, Indiana 46515

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

Operation Permit No.: MSOP 039-16017-00306	
Issued by: Original Signed by Paul Dubenetzky Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: October 31, 2002 Expiration Date: October 31, 2007

TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

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 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]

The Permittee owns and operates a stationary recreational vehicle (RV) manufacturing plant.

Authorized Individual:	Ken McCain, Division Manager
Source Address:	401 County Road 15 South, Elkhart, Indiana 46515
Mailing Address:	P.O. Box 743, Elkhart, Indiana 46515-743
Phone Number:	(574) 294-6521
SIC Code:	3792
County Location:	Elkhart
County Status:	Attainment for all criteria pollutants
Source Status:	Minor Source Operating Permit Minor Source, under PSD Minor Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

A.2 Emissions Units and Pollution Control Equipment Summary

This stationary source is approved to operate the following emissions units and pollution control devices:

(a) Coating operations in assembly area, with a maximum production rate of 3 recreational vehicles per hour, constructed before 1980, including various aerosol cans and manual tube extrusion guns.

(b) One (1) hot melt rollcoater, applying adhesives to vehicle wall panels, with a maximum production rate of 60 panels per hour.

(c) One (1) fiberglass and luan machining process, including one (1) table saw controlled by a fabric filter, and two (2) hand routers, machining one quarter inch of luan or fiberglass at a maximum rate of 600 pounds of material per hour, and exhausting into the building.

(d) Thirty nine (39) stationary and hand-held wood cutting saws, with a maximum throughput rate of 2,820 pounds of wood per hour, and exhausting into the building.

(e) One (1) welding process, including one (1) metal inert gas (MIG) welder, welding trailer wall frames with a maximum wire consumption rate of 4.7 pounds per hour.

(f) Forty (40) natural gas fired space heaters, each with a maximum heat input of 0.3 MMBtu/hr, exhausting to stack #A-C of service building, E - K and M - W of Plant 1 and Stack #1,2, 6-11, and 21-27 of Plant 2.

(g) Ten (10) natural gas fired space heaters, with a maximum total heat input of 1.6 MMBtu/hr, constructed in 2001.

(h) Water based adhesives that are less than or equal to 5% by volume of VOCs excluding HAPs.

(i) Paved and unpaved roads and parking lots with public access.

(j) Equipment powered by internal combustion engines of capacity equal to or less than 500,000 Btu/hour, except where total capacity of equipment operated by one stationary source exceeds 2,000,000 Btu/hour.

SECTION B GENERAL CONDITIONS

B.1 Permit No Defense [IC 13]

This permit to operate does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

B.2 Definitions

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, any applicable definitions found in IC 13-11, 326 IAC 1-2, and 326 IAC 2-1.1-1 shall prevail.

B.3 Effective Date of the Permit [IC13-15-5-3]

Pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.

B.4 Modification to Permit [326 IAC 2]

Notwithstanding the Section B condition entitled “Minor Source Operating Permit”, all requirements and conditions of this operating permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to 326 IAC 2 (Permit Review Rules).

B.5 Minor Source Operating Permit [326 IAC 2-6.1]

(a) The operation permit will be subject to annual operating permit fees pursuant to 326 IAC 2-1.1-7(Fees).

(b) Pursuant to 326 IAC 2-6.1-7, the Permittee shall apply for an operation permit renewal at least ninety (90) days prior to the expiration date established in the validation letter. If IDEM, OAQ, upon receiving a timely and complete 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. The operation permit issued shall contain as a minimum the conditions in Section C and Section D of this permit.

B.6 Permit Term [326 IAC 2-6.1-7]

This permit is issued for a fixed term of five (5) years from the original date, 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.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

C.1 Part 70 Minor Source Status [326 IAC 2-7]

(a) The potential to emit any regulated pollutant from the entire source is less than one hundred (100) tons per twelve (12) consecutive month period;

(b) The potential to emit any individual hazardous air pollutant (HAP) from the entire source is less than ten (10) tons per twelve (12) consecutive month period; and

(c) The potential to emit any combination of HAPs from the entire source is less than twenty-five (25) tons per twelve (12) consecutive month period.

Therefore, the requirements of 326 IAC 2-7 are not applicable. Any change or modification which may increase potential to emit of any of the pollutant to the levels greater than the limits above, shall cause this source to be considered a major source under Part 70 program, and shall require approval from IDEM, OAQ prior to making the change.

C.2 PSD Minor Source Status [326 IAC 2-2] [40 CFR 52.21]

(a) The total source potential to emit of all criteria pollutants is less than 250 tons per year. Therefore the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 will not apply.

(b) Any change or modification which may increase potential to emit to 250 tons per year from this source, shall cause this source to be considered a major source under PSD, 326 IAC 2-2 and 40 CFR 52.21, and shall require approval from IDEM, OAQ prior to making the change.

C.3 Preventive Maintenance Plan [326 IAC 1-6-3]

(a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMP) after issuance of this permit, including the following information on each emissions unit:

(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;

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

(b) The Permittee shall implement the Preventive Maintenance Plans as necessary to ensure that failure to implement the Preventive Maintenance Plan does not cause or contribute to a violation of any limitation on emissions or potential to emit.

(c) PMP's shall be submitted to IDEM, OAQ, upon request and shall be subject to review and approval by IDEM, OAQ, IDEM, OAQ, may require the Permittee to revise its Preventive Maintenance Plan whenever lack of proper maintenance causes or contributes to any violation.

C.4 Permit Revision [326 IAC 2-5.1-3(e)(3)] [326 IAC 2-6.1-6]

(a) The Permittee must comply with the requirements of 326 IAC 2-6.1-6 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, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application should be certified by the "authorized individual" as defined by 326 IAC 2-1.1-1.

(c) The Permittee shall notify the OAQ within thirty (30) calendar days of implementing a notice-only change. [326 IAC 2-6.1-6(d)]

C.5 Inspection and Entry [326 IAC 2-5.1-3(e)(4)(B)] [326 IAC 2-6.1-5(a)(4)]

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 permitted source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

(b) Have access to and copy, at reasonable times, any records that must be kept under this title or the conditions of this permit or any operating permit revisions;

(c) Inspect, at reasonable times, any processes, emissions units (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit or any operating permit revisions;

(d) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and

(e) Utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

C.6 Transfer of Ownership or Operation [326 IAC 2-6.1-6(d)(3)]

Pursuant to [326 IAC 2-6.1-6(d)(3)] :

(a) In the event that ownership of this source is changed, the Permittee shall notify IDEM, OAQ, Permits Branch, within thirty (30) days of the change.

(b) The written notification shall be sufficient to transfer the permit to the new owner by an notice-only change pursuant to 326 IAC 2-6.1-6(d)(3).

(c) IDEM, OAQ, shall issue a revised permit.

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

C.7 Permit Revocation [326 IAC 2-1-9]

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

(a) Violation of any conditions of this permit.

(b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.

(c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.

(d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.

(e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of this article.

C.8 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.9 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

Testing Requirements

C.10 Performance Testing [326 IAC 3-6]

(a) Compliance testing on new emissions units shall be conducted within 60 days after achieving maximum production rate, but no later than180 days after initial start-up, if specified in Section D of this approval. 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, P. O. Box 6015
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date. The Permittee shall submit a notice of the actual test date to the above address so that it is received at least two weeks prior to the test date.

(b) All test reports must be received by IDEM, OAQ within forty-five (45) days after the completion of the testing. An extension may be granted by the IDEM, OAQ, if the source submits to IDEM, OAQ, a reasonable written explanation within five (5) days prior to the end of the initial forty-five (45) day period.

The documentation submitted by the Permittee does not require certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

Compliance Monitoring Requirements

C.11 Monitoring Methods [326 IAC 3]

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, or other approved methods as specified in this permit.

C.12 Actions Related to Noncompliance Demonstrated by a Stack Test

(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 corrective actions. The Permittee shall submit a description of these corrective actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize emissions from the affected emissions unit while the corrective actions are being implemented. IDEM, OAQ shall notify the Permittee within thirty (30) days, if the corrective actions taken are deficient. The Permittee shall submit a description of additional corrective actions taken to IDEM, OAQ within thirty (30) days of receipt of the notice of deficiency. IDEM, OAQ reserves the authority to use enforcement activities to resolve noncompliant stack tests.

(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 and twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline. Failure of the second test to demonstrate compliance with the appropriate permit conditions may be grounds for immediate revocation of the permit to operate the affected emissions unit.

The documents submitted pursuant to this condition do not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

Record Keeping and Reporting Requirements

C.13 Malfunctions Report [326 IAC 1-6-2]

Pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

(a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Quality(OAQ) or appointed representative upon request.

(b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAQ, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.

(c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).

(d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

C.14 Annual Emission Statement [326 IAC 2-6]

(a) The Permittee shall submit an annual emission statement certified pursuant to the requirements of 326 IAC 2-6, that must be received by April 15 of each year and must comply with the minimum requirements specified in 326 IAC 2-6-4. The annual emission statement shall meet the following requirements:

(1) Indicate actual emissions of criteria pollutants from the source, in compliance with 326 IAC 2-6 (Emission Reporting);

(2) Indicate actual emissions of other regulated pollutants from the source, for purposes of Part 70 fee assessment.

(b) The annual emission statement covers the twelve (12) consecutive month time period starting December 1 and ending November 30. The annual emission statement must be submitted to:

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

The submittal by the Permittee does require the certification by the “authorized individual” as defined by 326 IAC 2-1.1-1.

C.15 Monitoring Data Availability [326 IAC 2-6.1-2] [IC 13-14-1-13]

(a) With the exception of performance tests conducted in accordance with Section C-Performance Testing, all observations, sampling, maintenance procedures, and record keeping, required as a condition of this permit shall be performed at all times the equipment is operating at normal representative conditions.

(b) As an alternative to the observations, sampling, maintenance procedures, and record keeping of subsection (a) above, when the equipment listed in Section D of this permit is not operating, the Permittee shall either record the fact that the equipment is shut down or perform the observations, sampling, maintenance procedures, and record keeping that would otherwise be required by this permit.

(c) If the equipment is operating but abnormal conditions prevail, additional observations and sampling should be taken with a record made of the nature of the abnormality.

(d) If for reasons beyond its control, the operator fails to make required observations, sampling, maintenance procedures, or record keeping, reasons for this must be recorded.

(e) At its discretion, IDEM may excuse such failure providing adequate justification is documented and such failures do not exceed five percent (5%) of the operating time in any quarter.

(f) Temporary, unscheduled unavailability of staff qualified to perform the required observations, sampling, maintenance procedures, or record keeping shall be considered a valid reason for failure to perform the requirements stated in (a) above.

C.16 General Record Keeping Requirements [326 IAC 2-6.1-2]

(a) Records of all required monitoring data and support information 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 kept at the source location for a minimum of three (3) years and available upon the request of an IDEM, OAQ, representative. 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 written request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

(b) Records of required monitoring information shall include, where applicable:

(1) The date, place, and time of sampling or measurements;

(2) The dates analyses were performed;

(3) The company or entity performing the analyses;

(4) The analytic techniques or methods used;

(5) The results of such analyses; and

(6) The operating conditions existing at the time of sampling or measurement.

(c) Support information shall include, where applicable:

(1) Copies of all reports required by this permit;

(2) All original strip chart recordings for continuous monitoring instrumentation;

(3) All calibration and maintenance records;

(4) Records of preventive maintenance shall be sufficient to demonstrate that failure to implement the Preventive Maintenance Plan did not cause or contribute to a violation of any limitation on emissions or potential to emit. To be relied upon subsequent to any such violation, these records may include, but are not limited to: work orders, parts inventories, and operator's standard operating procedures. Records of response steps taken shall indicate whether the response steps were performed in accordance with the Compliance Response Plan required by Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, of this permit, and whether a deviation from a permit condition was reported. All records shall briefly describe what maintenance and response steps were taken and indicate who performed the tasks.

(d) All record keeping requirements not already legally required shall be implemented when operation begins.

C.17 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]

(a) 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, P. O. Box 6015
Indianapolis, Indiana 46206-6015

(b) 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.

(c) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period.

C.18 Annual Notification [326 IAC 2-6.1-5(a)(5)]

(a) Annual notification shall be submitted to the Office of Air Quality stating whether or not the source is in operation and in compliance with the terms and conditions contained in this permit.

(b) Noncompliance with any condition must be specifically identified. If there are any permit conditions or requirements for which the source is not in compliance at any time during the year, the Permittee must provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be, achieved. The notification must be signed by an authorized individual.

(c) The annual notice shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted in the format attached no later than March 1 of each year to:

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

(d) The notification 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.

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Facility Description [326 IAC 2-6.1]:

(a) Coating operations in assembly area, with a maximum production rate of 3 recreational vehicles per hour, constructed before 1980, including various aerosol cans and manual tube extrusion guns.

(b) One (1) hot melt rollcoater, applying adhesives to vehicle wall panels, with a maximum production rate of 60 panels per hour.

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

Emission Limitations and Standards [326 IAC 2-6.1]

D.1.1 Volatile Organic Compounds [326 IAC 8-2-9]

(a) Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), no owner or operator of a facility engaged in the surface coating of miscellaneous metal parts or products may cause, allow, or permit the discharge into the atmosphere of any volatile organic compounds in excess of three and five tenths (3.5) that applies extreme performance coatings pounds of VOC per gallon of coating excluding water, delivered to a coating applicator.

(b) Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), solvent sprayed from the application equipment during clean up 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.

D.1.2 VOC and HAPs [326 IAC 2-7]

Any change or modification which may increase the potential to emit VOC to greater than 100 tons per year, increase the potential to emit a single HAP to greater than 10 tons per year, or increase the potential to emit any combination of HAPs to greater than 25 tons per year must be approved by IDEM, OAQ before any such change may occur.

D.1.3 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for this facility.

Compliance Determination Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.1.4 VOC and HAP Emissions

Compliance with the VOC and HAP usage limitations contained in Condition D.1.2 and the VOC content limitation contained in Condition D.1.1 shall be determined using formulation data supplied by the coating manufacturer. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.1.5 Record Keeping Requirements

(a) To document compliance with Conditions D.1.1 and D.1.2, the Permittee shall maintain records in accordance with (1) through (4) below. Records maintained for (1) through (4) shall be taken monthly and shall be complete and sufficient to establish compliance

with the VOC content limit established in Condition D.1.1 and VOC and HAP usage limits in D.1.2.

(1) The amount, the VOC content, and the HAP content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;

(3) The cleanup solvent usage for each month;

(4) The total VOC and HAP usages for each month; and

(6) The weight of VOCs and HAPs emitted for each compliance period.

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

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Facility Description [326 IAC 2-6.1]:

(c) One (1) fiberglass and luan machining process, including one (1) table saw controlled by a fabric filter, and two (2) hand routers, machining one quarter inch of luan or fiberglass at a maximum rate of 600 pounds of material per hour, and exhausting into the building.

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

Emission Limitations and Standards

D.2.1 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e) (Manufacturing Processes), the allowable particulate emissions from the fiberglass and luan machining process shall not exceed 1.83 lbs/hr when the process weight rate is 600 lbs/hr.

The pounds per hour limitation was calculated with the following equation:

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

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

Compliance Determination Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.2.2 Particulate Emissions

In order to comply with Condition D.2.1, the fabric filter used to control emissions from the fiberglass and luan machining processes shall be in operation at all times when these machining processes are in operation.

Compliance Monitoring Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.2.3 Broken or Failed Bag Detection

In the event that bag failure has been observed:

(a) The affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section C - Malfunctions Report).

(b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section C - Malfunctions Report).

SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS

Facility Description [326 IAC 2-6.1]:

(d) Thirty nine (39) stationary and hand-held wood cutting saws, with a maximum throughput rate of 2,820 pounds of wood per hour, and exhausting into the building.

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

Emission Limitations and Standards

D.3.1 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e) (Manufacturing Processes), the allowable particulate emissions from the woodworking operations shall not exceed 5.16 pounds per hour when operating at a process weight rate of 2,820 pounds per hour.

The pounds per hour limitation was calculated with the following equation:

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

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

SECTION D.4 EMISSIONS UNIT OPERATION CONDITIONS

Facility Description [326 IAC 2-6.1]:

(e) One (1) welding process, including one (1) metal inert gas (MIG) welder, welding trailer wall frames with a maximum wire consumption rate of 4.7 pounds per hour.

(f) Forty (40) natural gas fired space heaters, each with a maximum heat input of 0.3 MMBtu/hr, exhausting to stack #A-C of service building, E - K and M - W of Plant 1 and Stack #1,2, 6-11, and 21-27 of Plant 2.

(g) Ten (10) natural gas fired space heaters, with a maximum total heat input of 1.6 MMBtu/hr, constructed in 2001.

(h) Water based adhesives that are less than or equal to 5% by volume of VOCs excluding HAPs.

(i) Paved and unpaved roads and parking lots with public access.

(j) Equipment powered by internal combustion engines of capacity equal to or less than 500,000 Btu/hour, except where total capacity of equipment operated by one stationary source exceeds 2,000,000 Btu/hour.

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

Emission Limitations and Standards

There are no specifically applicable requirements that apply to these emission units.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
Compliance Branch

MINOR SOURCE OPERATING PERMIT
ANNUAL NOTIFICATION

This form should be used to comply with the notification requirements under 326 IAC 2-6.1-5(a)(5).

Company Name:	**Skyline Corporation**
Address:	**401 County Road 15 South**
City:	**Elkhart, Indiana 46515**
Phone #:	**(574) 294-6521**
MSOP #:	**039-16017-00306**

I hereby certify that Skyline Corporation is
9 still in operation.
9 no longer in operation.

I hereby certify that Skyline Corporation is
9 in compliance with the requirements of MSOP 039-16017-00306.
9 not in compliance with the requirements of MSOP 039-16017-00306.

Authorized Individual (typed):
Title:
Signature:
Date:

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

Noncompliance:

MALFUNCTION REPORT

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

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

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE IT HAS POTENTIAL TO EMIT 25 TONS/YEAR PARTICULATE MATTER ?_____, 25 TONS/YEAR SULFUR DIOXIDE ?_____, 25 TONS/YEAR NITROGEN OXIDES?_____, 25 TONS/YEAR VOC ?_____, 25 TONS/YEAR HYDROGEN SULFIDE ?_____, 25 TONS/YEAR TOTAL REDUCED SULFUR ?_____, 25 TONS/YEAR REDUCED SULFUR COMPOUNDS ?_____, 25 TONS/YEAR FLUORIDES ?_____, 100TONS/YEAR CARBON MONOXIDE ?_____, 10 TONS/YEAR ANY SINGLE HAZARDOUS AIR POLLUTANT ?_____, 25 TONS/YEAR ANY COMBINATION HAZARDOUS AIR POLLUTANT ?_____, 1 TON/YEAR LEAD OR LEAD COMPOUNDS MEASURED AS ELEMENTAL LEAD ?_____, OR IS A SOURCE LISTED UNDER 326 IAC 2-5.1-3(2) ?_____. EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION _____.

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

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

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

COMPANY: Skyline Corporation PHONE NO. (574) 294-6521
LOCATION: Elkhart, Indiana, Elkhart County
PERMIT NO. 039-16017-00306 AFS PLANT ID: 039-00306 AFS POINT ID:_____ INSP:____
CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND REASON:_____
_____

DATE/TIME MALFUNCTION STARTED: _____/_____/ 20____ _____ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION:_____

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE_____/_____/ 20____ _____ AM/PM

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

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: _____

_____

MEASURES TAKEN TO MINIMIZE EMISSIONS:_____

_____

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL* SERVICES:_____
CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS:_____
CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT:_____
INTERIM CONTROL MEASURES: (IF APPLICABLE)_____
_____
_____

MALFUNCTION REPORTED BY:_____TITLE:_____
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY:_____DATE:_____TIME:_____
*SEE PAGE 2

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

326 IAC 1-6-1 Applicability of rule

Sec. 1. This rule applies to the owner or operator of any facility required to obtain a permit under 326 IAC 2-5.1 or 326 IAC 2-6.1.

326 IAC 1-2-39 "Malfunction" definition

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner.

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

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

_____

_____

Indiana Department of Environmental Management
Office of Air Quality

Addendum to the Technical Support Document
for Minor Source Operating Permit

Source Background and Description

Source Name:	Skyline Corporation
Source Location:	401 County Road 15 South, Elkhart, Indiana 46515
County:	Elkhart
SIC Code:	3792
Operation Permit No.:	039-16017-00306
Permit Reviewer:	ERG/YC

On September 14, 2002, the Office of Air Quality (OAQ) had a notice published in the Elkhart Truth, Elkhart, Indiana, stating that Skyline Corporation had applied for a Minor Source Operating Permit (MSOP) to operate a RV parts manufacturing plant. The notice also stated that OAQ proposed to issue a permit for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

On September 17, 2002 and September 24, 2002, Skyline Corporation submitted comments on the proposed MSOP. The summary of the comments is as follows:

Comment 1:

The source stated that the potential to emit each criteria pollutant from Skyline Corporation is less than 50% of the Title V major source thresholds. Therefore, it is onerous and burdensome to apply the record keeping requirements of the total monthly VOC and HAP usages to the source. The source requested to identify the authority in law for these record keeping requirements.

Response to Comment 1:

Since this source performs surface coating operations, the source could change the coatings applied easily and the VOC contents of coatings could be different from the coatings listed in the MSOP application. In order to continuously demonstrate that the VOC and HAP emissions from the entire source are less than the Title V major source thresholds, the monthly record keeping requirements for the coating operations (Condition D.1.5) are necessary.

The authority of this requirement is from 326 IAC 2-5.1-3(e)(2) and 326 IAC 2-6.1-5(a)(2), which state that permits shall contain monitoring, testing, reporting, and record keeping requirements that assure reasonable information is provided to evaluate compliance consistent with the permit terms and conditions. IDEM, OAQ considers the requirement to maintain monthly records of VOC and HAP usage reasonable. Therefore, no changes have been made as a result of this comment.

Comment 2:

The source stated that the total maximum throughput rate of the thirty-nine (39) wood cutting saws should be 2,820 pounds of wood per hour. The maximum throughput rate of 600 pounds of wood per hour, which was provided by the source in the additional information submitted on August 27, 2002, was incorrect. The source requested IDEM, OAQ to revise the description of the wood cutting operation and the corresponding particulate emission limit.

Response to Comment 2:

The woodworking operation was described in the source's Part 70 permit #039-9115-00306, issued March 19, 1999, as having a maximum process rate of 132,188 lbs/hr. Therefore, this correction will not increase the potential to emit of the existing source, but will affect the emission calculations in the proposed MSOP. Therefore, the revised potential to emit of source before controls is shown in the following table:

Pollutant	Potential To Emit (tons/year)
PM	~~5.47~~ **17.1**
PM-10	~~5.47~~ **17.1**
SO_2	0.04
VOC	48.7
CO	5.00
NO_x	5.96

[Note: No changes have been made to the TSD because the IDEM, OAQ prefers that the Technical Support Document reflect the permit that was on public notice. Changes to the permit or technical support material that occur after the public notice are documented in this addendum to the TSD. This accomplishes the desired result of ensuring that these types of concerns are documented and part of the record regrading this permit decision. The changes to the PTE estimates for PM and PM10 do not affect the applicability of any state and federal regulations.]

To reflect the correction in the throughput rate of the woodworking operation, Conditions A.2 and D.3 have been revised as follows:

A.2 Emissions Units and Pollution Control Equipment Summary

This stationary source is approved to operate the following emissions units and pollution control devices:

(d) Thirty nine (39) stationary and hand-held wood cutting saws, with a maximum throughput rate of **2,820**~~600~~ pounds of wood per hour, and exhausting into the building.

SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS

Facility Description [326 IAC 2-6.1]:

(d) Thirty nine (39) stationary and hand-held wood cutting saws, with a maximum throughput rate of **2,820**~~600~~ pounds of wood per hour, and exhausting into the building.

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

This correction will also affect the particulate emission limit for this woodworking process. Pursuant to 326 IAC 6-3-2(e), the allowable particulate emissions from the process with a

maximum throughput rate of 2,820 lbs/hr shall not exceed 5.16 lbs/hr. Therefore, Condition D.3.1 has been revised as follows:

D.3.1 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e) (Manufacturing Processes), the allowable particulate emissions from the woodworking operations shall not exceed **5.16**~~1.83~~ pounds per hour when operating at a process weight rate of **2,820**~~600~~ pounds per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate up to of 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

Comment 3:

The source stated that only the table saw is controlled by a fabric filter and the two (2) hand routers are not controlled. The source requested to revise the unit description for the fiberglass and luan machining process, which include this table saw and the hand routers.

Response to Comment 3:

The unit description for the fiberglass and luan machining process in Condition A.2 and Section D.2 has revised to reflect this correction.

A.2 Emissions Units and Pollution Control Equipment Summary

This stationary source is approved to operate the following emissions units and pollution control devices:

(c) One (1) fiberglass and luan machining process, including one (1) table saw **controlled by a fabric filter,** and two (2) hand routers, machining one quarter inch of luan or fiberglass at a maximum rate of 600 pounds of material per hour, ~~controlled by a fabric filter,~~ and exhausting into the building.

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Facility Description [326 IAC 2-6.1]:

(c) One (1) fiberglass and luan machining process, including one (1) table saw **controlled by a fabric filter,** and two (2) hand routers, machining one quarter inch of luan or fiberglass at a maximum rate of 600 pounds of material per hour, ~~controlled by a fabric filter,~~ and exhausting into the building.

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

Comment 4:

The source stated that the emission unit listed under the section of “Permitted Emission Units and Pollution Control Equipment”, item (h):

(h) Equipment powered by internal combustion engines of capacity equal to or less than 500,000 Btu/hour, except where total capacity of equipment operated by one stationary

source exceeds 2,000,000 Btu/hour.

was not removed from the source and is still used in daily operations. The source requested to add this emission unit to the permit.

Response to Comment 4:

There is no specifically applicable requirements that apply to this equipment. Therefore, Condition A.2 and Section D.4 have been revised to reflect this additional emission unit. However, no changes will be made in TSD due to the same reason stated in response to comment 2.

A.2 Emissions Units and Pollution Control Equipment Summary

This stationary source is approved to operate the following emissions units and pollution control devices:

(j) Equipment powered by internal combustion engines of capacity equal to or less than 500,000 Btu/hour, except where total capacity of equipment operated by one stationary source exceeds 2,000,000 Btu/hour.

SECTION D.4 EMISSIONS UNIT OPERATION CONDITIONS

Facility Description [326 IAC 2-6.1]:

(e) One (1) welding process, including one (1) metal inert gas (MIG) welder, welding trailer wall frames with a maximum wire consumption rate of 4.7 pounds per hour.

(f) Forty (40) natural gas fired space heaters, each with a maximum heat input of 0.3 MMBtu/hr, exhausting to stack #A-C of service building, E - K and M - W of Plant 1 and Stack #1,2, 6-11, and 21-27 of Plant 2.

(g) Ten (10) natural gas fired space heaters, with a maximum total heat input of 1.6 MMBtu/hr, constructed in 2001.

(h) Water based adhesives that are less than or equal to 5% by volume of VOCs excluding HAPs.

(i) Paved and unpaved roads and parking lots with public access.

(j) Equipment powered by internal combustion engines of capacity equal to or less than 500,000 Btu/hour, except where total capacity of equipment operated by one stationary source exceeds 2,000,000 Btu/hour.

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

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Minor Source Operating Permit

Source Background and Description

Source Name:	Skyline Corporation
Source Location:	401 County Road 15 South, Elkhart, Indiana 46515
County:	Elkhart
SIC Code:	3792
Operation Permit No.:	039-16017-00306
Permit Reviewer:	ERG/YC

The Office of Air Quality (OAQ) has reviewed an application from Skyline Corporation relating to the operation of a recreational vehicle (RV) manufacturing plant.

History

On March 19, 1999, Skyline Corporation was issued a Part 70 Permit (T039-9115-00306) to operate a recreational vehicle (RV) manufacturing plant. On May 20, 2002, IDEM, OAQ received an application from Skyline Corporation requesting a Minor Source Operating Permit because the source has changed the chemical compounds applied during the manufacturing processes and the potential uncontrolled emissions from the entire source are now less than the Title V major source thresholds. Therefore, a Minor Source Operating Permit (MSOP) will be issued to this source. The Part 70 Permit 039-9115-00306 is in effect until issuance of this MSOP.

Source Definition

This recreational vehicle manufacturing company consists of two (2) plants:

Plant 1 and 2 are located at 401 County Road 15 South, Elkhart, Indiana 46515.

Since the two (2) plants are located on contiguous properties, have the same SIC codes and are owned by one (1) company, they are considered one (1) source.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

(a) Coating operations in assembly area, with a maximum production rate of 3 recreational vehicles per hour, constructed before 1980, including various aerosol cans and manual tube extrusion guns.

(b) One (1) hot melt rollcoater, applying adhesives to vehicle wall panels, with a maximum production rate of 60 panels per hour.

**(c) One (1) vinyl, fiberglass, and luan machining process, including one (1) table saw and two (2) hand routers, machining one quarter inch of luan, fiberglass, and vinyl at a maximum rate of 600 pounds of material per hour, controlled by a fabric filter, and exhausting into the building.

***(d) Thirty nine (39) stationary and hand-held wood cutting saws, with a maximum throughput rate of 132,188 pounds of wood per hour, controlled by a cyclone separator, and exhausting to stack # 3 at Plant 2.

(e) One (1) welding process, including one (1) metal inert gas (MIG) welder, welding trailer wall frames with a maximum wire consumption rate of 4.7 pounds per hour.

(f) Forty (40) natural gas fired space heaters, each with a maximum heat input of 0.3 MMBtu/hr, exhausting to stack # A-C of service building, E - K and M - W of Plant 1 and Stack # 1,2, 6-11, and 21-27 of Plant 2.

(g) Ten (10) natural gas fired space heaters, with a maximum total heat input of 1.6 MMBtu/hr, constructed in 2001.

*(h) Equipment powered by internal combustion engines of capacity equal to or less than 500,000 Btu/hour, except where total capacity of equipment operated by one stationary source exceeds 2,000,000 Btu/hour.

*(i) Combustion source flame safety purging on startup.

*(j) Storage tanks with capacity less than or equal to 1,000 gallons and annual throughputs less than 12,000 gallons.

*(k) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6.

*(l) Cleaners and solvents having a vapor pressure equal to or less than 2 kPa (15mm Hg or 0.3 psi) measured at 38 degrees C (100^{o}F) or having a vapor pressure equal to or less than 0.7 kPa (5mm Hg or 0.1 psi) measured at 20^{o}C (68^{o}F). The use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months.

*(m) Structural steel and bridge fabrication activities using 80 tons or less of welding consumables.

(n) Water based adhesives that are less than or equal to 5% by volume of VOCs excluding HAPs.

(o) Paved and unpaved roads and parking lots with public access.

*(p) On-site fire and emergency response training approved by the department.

Note: (*) These emission units were removed from this source.

(**) Source has indicated that this machining process only apply to fiberglass and luan.

(***) Source has indicated that all thirty-nine (39) wood cutting saws are hand-held saws. The maximum throughput rate of these woodworking operations is 600 lbs/hr. These cutting operations are not controlled by any control device and the exhausts vent into the building.

Unpermitted Emission Units and Pollution Control Equipment

There are no unpermitted facilities operating at this source during this review process.

New Emission Units and Pollution Control Equipment Receiving Prior Approval

There are no new construction activities included in this permit.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

(a) Title V Permit No. T039-9115-00306, issued March 19, 1999;

(b) First Administrative Amendment No. 039-10903-00306, issued May 19, 1999;

(c) Exemption No. 039-10776-00306, issued July 26, 1999;

(d) First Minor Permit Revision No. 039-14456-00306, issued July 16, 2001; and

(e) First TV Reopening No. 039-13273-00306, issued January 15, 2002.

All conditions from previous approvals were incorporated into this permit except the following:

(a) Part 70 Permit No. 039-9115-00306, issued on March 19, 1999:

Skyline Corporation was classified as a Title V major source because the potential to emit of Toluene was greater than 10 tons per year and the potential to emit of the combination of HAPs was greater than 25 tons per year.

Changes to the original permit:

Based on the permit application submitted by the Skyline Corporation on May 20, 2002, the Permittee has changed the chemical compounds applied during the manufacturing processes and potential uncontrolled emissions are now less than the Title V major source thresholds. Therefore, a Minor Source Operating Permit (MSOP) has been drafted for this source.

(b) Part 70 Permit #039-9115-00306, issued on March 19, 1999:

The thirty-nine (39) hand-held wood cutting saws were controlled by a cyclone separator and exhausting to stack #C-3. Daily visible emission notations are required for stack #C-3.

Changes to the original permit:

Source has indicated that these cutting saws are not controlled by any control device and the exhausts vent inside the building. Therefore, the description of the cyclone separator for the wood cutting is removed from this MSOP and there is no visible emission notation requirement for these wood cutting saws.

(c) First Minor Permit Revision #039-14456-00306, issued July 16, 2001:

The hot melt rollcoater applied the coatings to vinyl and was subject to 326 IAC 8-2-11 (VOC content limit for fabric and vinyl coating operations).

Changes to the original permit:

The source has indicated that vinyl has never been coated in the production processes. Therefore, the requirements of 326 IAC 8-2-11 for the coating operations are removed from this MSOP.

(d) Part 70 Permit #039-9115-00306, issued on March 19, 1999:

The coating operations in assembly were subjects to 326 IAC 8-2-12 (Wood Furniture and Cabinet Coating).

Changes to the original permit:

The Permittee stated that there are no wood furniture and cabinet coating operations performed at this plant. All wood cabinets are pre-coated prior to purchase by Skyline Corporation. Therefore, the requirements of 326 IAC 8-2-12 for the coating operations have been removed from this MSOP.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

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

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

An application for the purposes of this review was received on May 20, 2002, with additional information received on June 17, 2002, August 12, 2002, and August 27, 2002.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (pages 1 through 7).

Potential To Emit of Source Before Controls

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency."

Pollutant	Potential To Emit (tons/year)
PM	5.47
PM-10	5.47
SO_2	0.04
VOC	48.7
CO	5.00
NO_x	5.96

HAP's	Potential To Emit (tons/year)
MIBK	0.13
Xylene	2.28

MEK	4.79
Toluene	3.99
MDI	0.05
Ethyl Benzene	0.04
Vinyl Acetate	0.37
Methanol	0.10
TOTAL	11.7

(a) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of all pollutants are less than 100 tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.

(b) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of VOC is greater than 25 tons per year, therefore, the source is subject to the provisions of 326 IAC 2-6.1.

(c) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of any single HAP is less than ten (10) tons per year and/or the potential to emit (as defined in 326 IAC 2-1.1-1(16)) of a combination of HAPs is less than twenty-five (25) tons per year, therefore, the source is not subject to the provisions of 326 IAC 2-7.

(d) 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 particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

County Attainment Status

The source is located in Elkhart County.

Pollutant	Status
PM-10	Attainment
SO_2	Attainment
NO_2	Attainment
Ozone	Attainment
CO	Attainment
Lead	Attainment

(a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Elkhart County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(b) Elkhart County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(c) Fugitive Emissions
Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2, 40 CFR 52.21, or 326 IAC 2-3 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

Source Status

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

Pollutant	Emissions (ton/yr)
PM	5.47
PM10	5.47
SO_2	0.02
VOC	52.9
CO	5.00
NO_x	5.96

This existing source is **not** a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not in one of the 28 listed source categories.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

(a) each criteria pollutant is less than 100 tons per year,

(b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and

(c) any combination of HAPs is less than 25 tons/year.

Federal Rule Applicability

(a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.

(b) This source is not engaged in manufacturing metal furniture. Therefore, the New Source Performance Standards for Surface Coating of Metal Furniture (40 CFR Part 60.310 - 60.316, Subpart EE) do not apply to this source.

(c) The source does not perform surface coating operations on large appliances. Therefore, the New Source Performance Standards for Industrial Surface Coating: Large Appliances (40 CFR 60.450 - 60.456, Subpart SS) do not apply to this source.

(d) This source does not perform metal coil surface coating operations. Therefore, the New Source Performance Standards for Metal Coil Surface Coating (40 CFR Part 60.460 - 60.466, Subpart TT) do not apply to this source.

(e) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this source.

(f) The source is not a Title V major source and is not engaged in the manufacturing of wood furniture. Therefore, the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Wood Furniture Manufacturing Operations (40 CFR Part 63, Subpart JJ) are not applicable to this source.

State Rule Applicability - Entire Source

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

This source is not in 1 of 28 source categories defined in 326 IAC 2-2-1(p)(1), and was constructed before 1980 and modified in 2002. The potential to emit of any regulated pollutant before controls from the entire source is less than two hundred and fifty (250) tons per year. Therefore, the requirements of 326 IAC 2-2 do not apply.

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

The source was constructed prior to July 27, 1997, and has HAP emissions from the entire source less than the major source thresholds. Therefore, the requirements of 326 IAC 2-4.1 are not applicable.

326 IAC 2-7 (Part 70 Program)

(a) The potential to emit of VOC from the entire source is less than 100 tons per year.

(b) The potential to emit of any single HAP from the entire source is less than 10 tons per year.

(c) The potential to emit of any combination of HAPs from the entire source is less than 25 tons per year.

Therefore, 326 IAC 2-7 does not apply. Any change or modification which may increase the potential VOC emissions to greater than 100 tons per year, increase the potential emissions of any single HAP to greater than 10 tons per year, or increase the potential emissions of any combination of HAPs to greater than 25 tons per year must be approved by the Office of Air Quality before any such change may occur.

326 IAC 2-6 (Emission Reporting)

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

326 IAC 5-1 (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 this permit:

(a) Opacity shall not exceed an average of forty percent (40%) 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 - Coating Operation in Assembly Area and The Hot Melt Rollcoater

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

The source applies the coatings to metal surfaces and the source operates under the Standard Industrial Classification Code major group No. 37. Therefore, the VOC content of the coatings applied to this facility shall be limited as follows:

(a) Three and five tenths (3.5) pounds VOC per gallon of coating, excluding water, delivered to the applicators that apply extreme performance coatings.

(b) Solvent sprayed from the application equipment during clean-up or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is completed, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.

Based on the MSDS submitted by the Permittee, the VOC contents of the coatings applied for the metal surface coating are in compliance with this limit.

326 IAC 6-3 (Manufacturing Processes)

The coating operations in the assembly area are aerosol coating or manual tube extrusion guns. The operation of extrusion guns does not emit any particulate emissions. The application of aerosol coating products is exempt from the requirements of 326 IAC 6-3, pursuant to 326 IAC 6-3-1(a)(12). Therefore, the requirements of 326 IAC 6-3 are not applicable to the coating operations in the assembly area.

State Rule Applicability - The Woodworking Operations

326 IAC 6-3-2 (Manufacturing Processes)

The allowable particulate emission as from the woodworking operations shall be limited to 1.83 lbs/hr when the process weight rate is 600 pounds per hour.

The pounds per hour limitation was calculated with the following equation:

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

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

According to the emission calculations (see Appendix A), the potential to emit particulate from the woodworking operations is less than the limit calculated using the equation above. Therefore, the woodworking operations are in compliance with 326 IAC 6-3-2.

State Rule Applicability - The Fiberglass and Luan Machining Process, and the Welding Process

326 IAC 6-3-2 (Manufacturing Processes)

(a) The allowable particulate emissions from the machining process shall be limited to 1.83 lbs/hr when the process weight rate is 600 lbs/hr.

The pounds per hour limitation was calculated with the following equation:

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

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

According to the emission calculations (see Appendix A), the potential uncontrolled PM emissions from the machining process are less than the limit above. Therefore, the fiberglass and luan machining process is in compliance with 326 IAC 6-3-2.

(b) The welding process at this source consumes less than 625 pounds of wire per day. Pursuant to 326 IAC 6-3-1(a)(9), the welding operations are exempt from the requirements of 326 IAC 6-3.

Conclusion

The operation of this recreational vehicle (RV) manufacturing plant shall be subject to the conditions of the attached Minor Source Operating Permit 039-16017-00306. This MSOP will supersede the source's current Title V permit (T039-9115-00306, issued on March 19, 1999). The current Title V permit remains in effect until issuance of this MSOP.

Appendix A: Emission Calculations
VOC Emissions
From the Coating Operations

Company Name: Skyline Corporation
Address City IN Zip: 401 County Road 15 South
MSOP: 039-16017-00306
Reviewer: ERG/YC
Date: August 13, 2002

Type of Coatings	Density (lbs/gal)	Weight % Volatile (H_2O & Organics)	Weight % Water	Weight % VOC	Maximum Usage (gal/unit)	Maximum Throughput (unit/hr)	VOC Content (lbs/gal)	Potential VOC (lbs/hr)	Potential VOC (tons/yr)	*PM/PM10 Potential (lb/hr)	*PM/PM10 Potential (ton/yr)	Transfer Efficiency
Oatey Cleaner	6.747	80.0%	0.0%	80.0%	0.010	3.0	5.4	0.16	0.71			
Colorimetric MS-101 Sealant	8.006	35.0%	0.0%	35.0%	0.007	3.0	2.8	0.06	0.26			
Colorimetric MS-102 Sealant	7.997	40.0%	0.0%	40.0%	0.037	3.0	3.2	0.36	1.56			
Alpha 8010/8011 Adhesive	8.350	42.0%	41.7%	0.3%	1.127	3.0	0.0	0.08	0.37			
AHB Clear Thin Spread Adhesive	8.497	34.8%	33.8%	1.0%	0.250	3.0	0.1	0.06	0.28			
Geocel Stix 4 Adhesive	9.163	36.2%	0.0%	36.2%	0.150	3.0	3.3	1.49	6.54			
Natl Starch Purfect Lok Adhesive	8.800	0.0%	0.0%	0.0%	0.380	3.0	0.0	0.00	0.00			
Oatey ABS Cement	7.414	75.0%	0.0%	75.0%	0.053	3.0	5.6	0.88	3.87			
Sika Corp Sikaflex 221	9.913	4.4%	0.0%	4.4%	0.263	3.0	0.4	0.34	1.51			
Sun #41 Underlayment Sealer	8.600	0.0%	75.0%	0.0%	0.073	3.0	0.0	0.00	0.00			
Rectorseal #5 Pipe Dope	11.495	30.0%	0.0%	30.0%	0.0004	3.0	3.4	0.00	0.02			
Beaver Terp-A-Kleen Cleaner	7.006	93.0%	0.0%	93.0%	0.123	3.0	6.5	2.40	10.53			
Sika Corp Sikatack Ultrafast	9.996	3.0%	0.0%	3.0%	0.037	3.0	0.3	0.03	0.15			
Sun 59-10 Adhesive	9.100	55.0%	55.0%	0.0%	0.833	3.0	0.0	0.00	0.00			
Crown Paint Thinner	6.546	100.0%	0.0%	100.0%	0.007	3.0	6.5	0.14	0.63			
Denatured Alcohol	6.622	100.0%	0.0%	100.0%	0.033	3.0	6.6	0.65	2.84			
Pure Grad Lacquer Thinner	7.010	100.0%	0.0%	100.0%	0.011	3.0	7.0	0.24	1.04			
Uniplex 260 Cleaner	10.496	0.0%	0.0%	0.0%	0.023	3.0	0.0	0.00	0.00			
**WD-40	6.797	63.0%	0.0%	63.0%	0.003	3.0	4.3	0.04	0.17	**7.92E-03**	**0.03**	65%
Ridgid Thread Cutting Oil	7.247	0.0%	0.0%	0.0%	0.005	3.0	0.0	0.00	0.00			
Stabond Anti-Wick	9.163	70.0%	70.0%	0.0%	0.012	3.0	0.0	0.00	0.00			
Leak Detector	8.447	55.0%	55.0%	0.0%	0.003	3.0	0.0	0.00	0.00			
Color Putty	11.500	0.0%	0.0%	0.0%	0.010	3.0	0.0	0.00	0.00			
Rapid -Tac	8.330	15.0%	0.0%	15.0%	0.004	3.0	1.2	0.01	0.07			
**Dap Spray Paint	8.163	62.5%	27.6%	34.9%	0.010	3.0	2.8	0.08	0.36	**0.03**	**0.14**	65%
Alpha 1016 Low VOC Sealant	9.030	34.0%	0.0%	34.0%	0.409	3.0	3.1	3.77	16.50			
Colorimetrc Butyl Caulk	12.495	30.0%	0.0%	30.0%	0.007	3.0	3.7	0.08	0.36			
Colorimetrc Silicone Acrylic Latex Caulk	13.860	17.0%	15.8%	1.2%	0.043	3.0	0.2	0.02	0.09			
Colorimetrc Silicone Sealant	8.663	6.0%	1.0%	5.0%	0.107	3.0	0.4	0.14	0.61			
Total								**11.06**	**48.46**	**0.04**	**0.17**	

* Assume all the PM emissions are PM10 emissions.
** These are the coating applied by aerosol coating applications.
Note: The coatings in Italic type are the coatings applied to the metal surface.

METHODOLOGY
Weight % VOC = Weight % Volatile - Weight % Water
Potential VOC (lbs/hr) = Maximum Usage (gal/unit) x Max. Throughtput (units/hr) x Density (lbs/gal) x Weight % VOC
Potential VOC (tons/yr) = Maximum Usage (gal/unit) x Max. Throughtput (units/hr) x Density (lbs/gal) x Weight % VOC x 8760 hr/yr x 1 ton/2000 lbs
Potential PM/PM10 (lbs/hr) = Maximum Usage (gal/unit) x Max. Throughtput (units/hr) x Density (lbs/gal) x (1-Weight % Volatile) x (1-Transfer Efficiency)
Potential PM/PM10 (tons/yr) = Maximum Usage (gal/unit) x Max. Throughtput (units/hr) x Density (lbs/gal) x (1-Weight % Volatile) x (1-Transfer Efficiency) x 8760 hr/yr x 1 ton/2000 lbs

Appendix A: Emission Calculations
HAP Emissions
From the Coating Operations

Company Name: Skyline Corporation
Address City IN Zip: 401 County Road 15 South
MSOP: 039-16017-00306
Reviewer: ERG/YC
Date: August 13, 2002

Type of Coating	Density (lbs/gal)	Maximum Usage (gal/unit)	Maximum Throughput (unit/hr)	Weight % MIBK	MIBK Emissions (tons/yr)	Weight % Xylene	Xylene Emissions (tons/yr)	Weight % MEK	MEK Emissions (tons/yr)	Weight % Toluene	Toluene Emissions (tons/yr)	Weight % MDI	MDI Emissions (tons/yr)	Weight % Ethyl Benzene	Ethyl Benzene Emissions (tons/yr)	Weight % Vinyl Acetate	Vinyl Acetate Emissions (tons/yr)	Weight % Methanol	Methanol Emissions (tons/yr)
Oatey Cleaner	6.747	0.010	3.0					80.0%	**0.71**										
Colorimetric MS-101 Sealant	8.006	0.007	3.0			30.0%	**0.22**							5.0%	**0.04**				
Colorimetric MS-102 Sealant	7.997	0.037	3.0							40.0%	**1.56**								
Alpha 8010/8011 Adhesive	8.350	1.127	3.0													0.3%	**0.37**		
AHB Clear Thin Spread Adhesive	8.497	0.250	3.0																
Geocel Stix 4 Adhesive	9.163	0.150	3.0							10.0%	**1.81**								
Natl Starch Purfect Lok Adhesive	8.800	0.380	3.0																
Oatey ABS Cement	7.414	0.053	3.0					75.0%	**3.87**										
Sika Corp Sikaflex 221	9.913	0.263	3.0			5.0%	**1.71**												
Sun #41 Underlayment Sealer	8.600	0.073	3.0																
Rectorseal #5 Pipe Dope	11.495	0.0004	3.0																
Beaver Terp-A-Kleen Cleaner	7.006	0.123	3.0																
Sika Corp Sikatack Ultrafast	9.996	0.037	3.0			5.0%	**0.24**					1.0%	**0.05**						
Sun 59-10 Adhesive	9.100	0.833	3.0																
Crown Paint Thinner	6.546	0.007	3.0																
Denatured Alcohol	6.622	0.033	3.0	1.0%	**0.03**														
Pure Grad Lacquer Thinner	7.010	0.011	3.0	9.53%	**0.10**			9.57%	**0.10**	52.11%	**0.54**							9.45%	**0.10**
Uniplex 260 Cleaner	10.496	0.023	3.0																
WD-40	6.797	0.003	3.0																
Ridgid Thread Cutting Oil	7.247	0.005	3.0																
Stabond Anti-Wick	9.163	0.012	3.0																
Leak Detector	8.447	0.003	3.0																
Color Putty	11.500	0.010	3.0																
Rapid -Tac	8.330	0.004	3.0																
Dap Spray Paint	8.163	0.010	3.0			10.00%	**0.10**	10.00%	**0.10**	8.00%	**0.08**								
Alpha 1016 Low VOC Sealant	9.030	0.409	3.0																
Colorimetrc Butyl Caulk	12.495	0.007	3.0																
Colorimetrc Silicone Acrylic Latex Caulk	13.860	0.043	3.0																
Colorimetrc Silicone Sealant	8.663	0.107	3.0																
Total					**0.13**		**2.28**		**4.79**		**3.99**		**0.05**		**0.04**		**0.37**		**0.10**

Potential Total HAPs Emissions

Total HAPs 11.74 tons/yr

METHODOLOGY

HAPs Emissions (tons/yr) = Maximum Usage (gal/unit) x Max. Throughtput (units/hr) x Density (lbs/gal) x Weight % HAP x 8760 hr/yr x 1 ton/2000 lbs

Appendix A: Emission Calculations
VOC and HAPs Emissions
From the Hot Melt Rollcoater

Company Name: Skyline Corporation
Address City IN Zip: 401 County Road 15 South
MSOP: 039-16017-00306
Reviewer: ERG/YC
Date: August 13, 2002

1. Process Descriptions:

The rollcoater applies adhesive to luan and fiberglass panels. The adhesive contains 2% of methylene bisphenyl diisocyannate (MDI), which is considered a VOC and HAP.

Max. Process Rate:	**60**	**panel/hr**
Max. Panel Dimension:	**2.98**	**square meter (= 4"x 8")**
Adhesive Applying Rate:	**7.09**	**gram/ft^2**

2. Emission Factors:

According to the emission calculations published by the Society of the Plastic Industry, the MDI evaporation rate can be estimated from the following equation:

$$W = \frac{25.4\ Pt \times Mt \times u^{0.78} \times A}{T}$$

where:

W =	evaporation rate in g/s		
Pt =	liquid vapor pressure in atmosphere =	1.30E-06	
Mt =	average molecular weight =	250	for MDI
T =	temperature in degrees Kelvin =	343	K
u =	air speed across the curing adhesive in m/s =	3	m/s
A =	exposed area in square meters =	5.9	m^2 (2 sides of one panel)

3. Emissions from the Hot Melt Rollcoater:

MDI evaporation rate W = (25.4 x 1.3E-16 x 250 x $(3)^{0.78}$ x 5.9) / 343 = 0.00033 g/sec/panel

Assume all the MDI evaporate in 3 seconds for each panel.

Potential VOC/HAP Emissions

= 0.00033 g/s/panel x 3 sec x 60 panel/hr x 1 lbs/454 gram x 8760 hr/yr x 1/2000 lbs = **0.0006 tons/yr**

Appendix A: Emission Calculations
PM/PM10 Emissions
From the Fiberglass and Luan Machining Process

Company Name: Skyline Corporation
Address City IN Zip: 401 County Road 15 South
MSOP: 039-16017-00306
Reviewer: ERG/YC
Date: August 13, 2002

Machining Process Description:

Max. Process Rate:	600	lbs/hr
PM Control Euipment:	baghouse	
Grain Loading:	0.004	grains/acf
Air Flow Rate:	1200	acf/m
Control Efficiency:	85%	

1. Potential to Emit After Control:

Hourly PM/PM10 Emissions	= 0.004 (gr/acf) x 1200 (acf/min) x 60 (min/hr) x 1/7000 (lb/gr) =	**0.04 lbs/hr**
Annual PM/PM10 emissions	= 0.04 lbs/hr x 8760 hr/yr x 1/2000 (ton/lb) =	**0.18 tons/yr**

2. Potential Uncontrolled Emissions:

Hourly PM/PM10 emissions	= 0.04 lbs/hr / (1-85.0%) =	**0.3 lbs/hr**
Annual PM/PM10 emissions	= 0.18 tons/yr / (1-85.0%) =	**1.2 tons/yr**

Appendix A: Emission Calculations
PM/PM10 Emissions
From the Woodworking and Cabinet Area

Company Name: Skyline Corporation
Address City IN Zip: 401 County Road 15 South
MSOP: 039-16017-00306
Reviewer: ERG/YC
Date: August 13, 2002

1. Woodworking Process Description:

Maximum Total Throughput:	600 lb/hr	
Saw Dust Percentage:	2%	(provided by the source)
*PM/PM10 Percentage:	6%	(provided by the source)

* Note: Assume all the PM emissions are PM10 emissions.

2. Potential to Emit PM/PM10:

Hourly PM/PM10 Emissions	= 600 lbs/hr x 2% x 6% =	**0.72 lbs/hr**
Annual PM/PM10 emissions	= 0.72 lbs/hr x 8760 hr/yr x 1/2000 (ton/lb) =	**3.15 tons/yr**

Appendix A: Emission Calculations

PM and HAP Emissions
From the Welding Process

Company Name: Skyline Corporation
Address City IN Zip: 401 County Road 15 South
MSOP: 039-16017-00306
Reviewer: ERG/YC
Date: August 13, 2002

PROCESS	Number of Stations	Max. electrode consumption per station (lbs/hr)	Type of Wire	EMISSION FACTORS* (lb pollutant/lb electrode)				EMISSIONS (lbs/hr)			
WELDING				PM=PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr
Submerged Arc				0.0360	0.011			0.000	0.000	0	0
Metal Inert Gas (MIG)(carbon steel)	1	4.7	E70S	0.0241	0.000034		0.00001	0.113	1.60E-04	0	0.000047
Stick (E7018 electrode)				0.0211	0.0009			0.000	0.000	0	0
Tungsten Inert Gas (TIG)(carbon steel)				0.0055	0.0005			0.000	0.000	0	0
Oxyacetylene(carbon steel)				0.0055	0.0005			0.000	0.000	0	0

	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)			
FLAME CUTTING				PM=PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr
Oxyacetylene				0.1622	0.0005	0.0001	0.0003	0.000	0.000	0.0E+00	0.000
Oxymethane				0.0815	0.0002		0.0002	0.000	0.000	0	0.000
Plasma**				0.0039				0.000	0	0	0

EMISSION TOTALS	PM = PM10	Mn	Ni	Cr
Potential Emissions (lbs/hr)	0.11	1.6E-04	0.0E+00	4.7E-05
Potential Emissions (lbs/day)	2.72	3.8E-03	0.0E+00	1.1E-03
Potential Emissions (tons/year)	**0.50**	**7.0E-04**	**0.0E+00**	**2.1E-04**

*Emission Factors are default values for carbon steel unless a specific electrode type is noted in the Process column.
**Emission Factor for plasma cutting from American Welding Society (AWS). Trials reported for wet cutting of 8 mm thick mild steel with 3.5 m/min cutting speed (at 0.2 g/min emitted). Therefore, the emission factor for plasma cutting is for 8 mm thick Using AWS average values: (0.25 g/min)/(3.6 m/min) x (0.0022 lb/g)/(39.37 in./m) x (1,000 in.) = 0.0039 lb/1,000 in. cut, 8 mm thick.

METHODOLOGY

Welding emissions (lb/hr) = (# of stations) x (max. lbs of electrode used/hr/station) x (emission factor, lb. pollutant/lb. of electrode used)
Cutting emissions (lb/hr) = (# of stations) x (max. metal thickness, in.) x (max. cutting rate, in./min.) x (60 min./hr.) x (emission factor, lb. pollutant/1,000 in. cut, 1" thick)
Plasma cutting emissions (lb/hr) = (# of stations) x (max. cutting rate, in./min.) x (60 min./hr.) x (emission factor, lb. pollutant/1,000 in. cut, 8 mm thick)
Emissions (lbs/day) = emissions (lbs/hr) x 24 hrs/day
Emissions (tons/yr) = emissions (lb/hr) x 8,760 hrs/year x 1 ton/2,000 lbs.

Total HAPS (lbs/hr)
0.000
2.07E-04
0.000
0.000
0.000

Total HAPS (lbs/hr)
0.000
0.000
0.000

Total HAPS
2.1E-04
5.0E-03
9.1E-04

Appendix A: Emission Calculations
Natural Gas Combustion
(MMBtu/hr < 100)
From 50 Space Heaters (13.6 MMBtu/hr total)

Company Name: Skyline Corporation
Address City IN Zip: 401 County Road 15 South
MSOP: 039-16017-00306
Reviewer: ERG/YC
Date: August 13, 2002

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
13.6	119.1

	Pollutant					
	PM*	PM10*	SO_2	**NO_x	VOC	CO
Emission Factor in lb/MMCF	7.6	7.6	0.6	100	5.5	84.0
Potential Emission in tons/yr	**0.45**	**0.45**	**0.04**	**5.96**	**0.33**	**5.00**

*PM and PM10 emission factors are condensable and filterable PM10 combined.

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

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 from AP-42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (AP-42 Supplement D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton