

**NEW SOURCE CONSTRUCTION PERMIT  
and MINOR SOURCE OPERATING PERMIT  
OFFICE OF AIR MANAGEMENT**

**Forest River, Incorporated  
3010 College Avenue, Complex/1803  
Goshen, Indiana 46527**

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

This permit is issued to the above mentioned company under the provisions of 326 IAC and 40 CFR 52.780, with conditions listed on the attached pages.

Operation Permit No.: MSOP-039-10468-00469	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

## SECTION A

## SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM). 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 recreational vehicle (RV) production plant.

Authorized Individual: William Conway  
Source Address: 3010 College Avenue, Goshen, Indiana 46527  
Mailing Address: P.O Box 124, Goshen, Indiana 46527  
Phone Number: (219) 533-5934  
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

### A.2 Emissions Units and Pollution Control Equipment Summary

This source is approved to construct and operate the following emissions units used in the recreational vehicle (RVs) production:

- (a) Salem/Wildwood Model assembly line, which is capable of producing 30 units per day and includes:
  - (1) A cabinet assembly area; and
  - (2) An adhesive/gluing operation of purchased frames and components. This operation is equipped with an airless spray system and High Velocity Low Pressure (HVLP) spray system. The adhesive/glue is applied either by brushed, wiped, sprayed or extruded.
- (b) Sierra/Sandpiper Model assembly line, which is capable of producing 22 units per day and includes:
  - (1) A cabinet assembly area; and
  - (2) An adhesive/gluing operation of purchased frames and components. This operation is equipped with an airless spray system, High Velocity Low Pressure (HVLP) and air atomization spray systems. The adhesive/glue is applied either by brushed, wiped, sprayed or extruded.
- (c) Fifty six (56) space heaters, each with a heat input capacity of 0.2 million Btu per hour (mmBtu/hr);
- (d) One (1) space heater, with a heat input capacity of 0.145 mmBtu/hr;
- (e) One (1) space heater, with a heat input capacity of 0.1 mmBtu/hr; and
- (f) One (1) Service Department, which is capable of repairing 3 units per day. This operation is equipped with an airless spray system and High Velocity Low Pressure (HVLP) spray system.

A.3 Part 70 Permit Applicability [326 IAC 2-7-2]

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This stationary source will not be required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

- a. It is a minor source, as defined in 326 IAC 2-7-1(22).

## **SECTION B GENERAL CONSTRUCTION CONDITIONS**

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1.1 AND 40 CFR 52.780, WITH CONDITIONS LISTED BELOW.

### B.1 Permit No Defense [IC 13]

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

### 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 Revocation of Permits [326 IAC 2-1.1-9(5)]

Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this permit if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

### B.5 Modification to Permit [326 IAC 2]

Notwithstanding Construction Condition No. B.6, all requirements and conditions of this construction permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to 326 IAC 2 (Permit Review Rules).

### B.6 Minor Source Operating Permit [326 IAC 2-6.1]

This document shall also become a minor source operating permit pursuant to 326 IAC 2-6.1 when, prior to start of operation, the following requirements are met:

- (a) The attached affidavit of construction shall be submitted to the Office of Air Management (OAM), Permit Administration & Development Section, verifying that the emissions units were constructed as proposed in the application. The emissions units covered in the New Source Construction Permit may begin operating on the date the affidavit of construction is postmarked or hand delivered to IDEM.
- (b) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.
- (c) The Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section and attach it to this document.
- (d) The operation permit will be subject to annual operating permit fees pursuant to 326 IAC 2-1.1-7(Fees).

- (e) 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, OAM, 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.

## SECTION C SOURCE OPERATION CONDITIONS

Entire Source

### C.1 PSD Minor Source Status [326 IAC 2-2] [40 CFR 52.21]

The total source potential to emit of volatile organic compounds (VOC) 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.

### C.2 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) within ninety (90) days 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.

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

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

- (b) The Permittee shall implement the Preventive Maintenance Plans as necessary to ensure that lack of proper maintenance 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, OAM, upon request and shall be subject to review and approval by IDEM, OAM.

### C.3 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 Management  
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 OAM within thirty (30) calendar days of implementing a notice-only change. [326 IAC 2-6.1-6(d)]

C.4 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, the Permittee shall allow IDEM, OAM, 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.
  - (1) The Permittee may assert a claim that, in the opinion of the Permittee, information removed or about to be removed from the source by IDEM, OAM, or an authorized representative, contains information that is confidential under IC 5-14-3-4(a). The claim shall be made in writing before or at the time the information is removed from the source. In the event that a claim of confidentiality is so asserted, neither IDEM, OAM, nor an authorized representative, may disclose the information unless and until IDEM, OAM, makes a determination under 326 IAC 17-1-7 through 326 IAC 17-1-9 that the information is not entitled to confidential treatment and that determination becomes final. [IC 5-14-3-4; IC 13-14-11-3; 326 IAC 17-1-7 through 326 IAC 17-1-9]
  - (2) The Permittee, and IDEM, OAM, acknowledge that the federal law applies to claims of confidentiality made by the Permittee with regard to information removed or about to be removed from the source by U.S. EPA. [40 CFR Part 2, Subpart B]

C.5 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, OAM, 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, OAM, 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.6 Permit Revocation [326 IAC 2-1-9]

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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.7 Opacity [326 IAC 5-1]

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Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), 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.8 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). 326 IAC 6-4-2(4) is not federally enforceable.

### Testing Requirements

#### C.9 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 methods approved by IDEM, OAM.

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 Management  
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, OAM within forty-five (45) days after the completion of the testing. An extension may be granted by the Commissioner, if the source submits to IDEM, OAM, 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.10 Compliance Monitoring [326 IAC 2-1.1-11]**

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Compliance with applicable requirements shall be documented as required by this permit. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment, no more than ninety (90) days (this time frame is determined on a case by case basis but no more than ninety (90) days) after receipt of this permit. If due to circumstances beyond its control, this schedule cannot be met, the Permittee may extend the compliance schedule an additional ninety (90) days provided the Permittee notifies:

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

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 the "authorized individual" as defined by 326 IAC 2-1.1-1.

#### **C.11 Maintenance of Monitoring Equipment [IC 13-14-1-13]**

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- (a) In the event that a breakdown of the monitoring equipment occurs, a record shall be made of the times and reasons of the breakdown and efforts made to correct the problem. To the extent practicable, supplemental or intermittent monitoring of the parameter should be implemented at intervals no less frequent than required in Section D of this permit until such time as the monitoring equipment is back in operation. In the case of continuous monitoring, supplemental or intermittent monitoring of the parameter should be implemented at intervals no less than one (1) hour (this time frame is determined on a case by case basis) until such time as the continuous monitor is back in operation.
- (b) The Permittee shall install, calibrate, quality assure, maintain, and operate all necessary monitors and related equipment. In addition, prompt corrective action shall be initiated whenever indicated.

**C.12 Monitoring Methods [326 IAC 3]**

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Any monitoring or testing performed to meet the applicable requirements 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.13 Actions Related to Noncompliance Demonstrated by a Stack Test**

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- (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, OAM, 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, OAM 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, OAM within thirty (30) days of receipt of the notice of deficiency. IDEM, OAM 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, OAM that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAM 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.14 Annual Emission Statement [326 IAC 2-6]**

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- (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:

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

- (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, OAM, 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, OAM, 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 improper maintenance 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 Monitoring Plan - Failure to take Response Steps, 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 within ninety (90) days of permit issuance.

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

- (a) 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, OAM, on or before the date it is due.
- (b) Unless otherwise specified in this permit, any report shall be submitted within thirty (30) days of the end of the reporting period. The report does not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) Any corrective actions or response steps taken as a result of each deviation must be clearly identified in such reports.
- (d) 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.

## SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

- (a) Salem/Wildwood Model assembly line, which is capable of producing 30 units per day and includes:
  - (1) A cabinet assembly area; and
  - (2) An adhesive/gluing operation of purchased frames and components. This operation is equipped with an airless spray system and High Velocity Low Pressure (HVLP) spray system. The adhesive/glue is applied either by brushed, wiped, sprayed or extruded.
- (b) Sierra/Sandpiper Model assembly line, which is capable of producing 22 units per day and includes:
  - (1) A cabinet assembly area; and
  - (2) An adhesive/gluing operation of purchased frames and components. This operation is equipped with an airless spray system, High Velocity Low Pressure (HVLP) and air atomization spray systems. The adhesive/glue is applied either by brushed, wiped, sprayed or extruded.
- (c) Fifty six (56) space heaters, each with a heat input capacity of 0.2 million Btu per hour (mmBtu/hr);
- (d) One (1) space heater, with a heat input capacity of 0.145 mmBtu/hr;
- (e) One (1) space heater, with a heat input capacity of 0.1 mmBtu/hr; and
- (f) One (1) Service Department, which is capable of repairing 3 units per day. This operation is equipped with an airless spray system and High Velocity Low Pressure (HVLP) spray system.

### Emission Limitations and Standards

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

Any change or modification which may increase the VOC emissions from each RV assembly line to 25 tons per year or greater must be approved by the Office of Air Management (OAM) and be subject to 326 IAC 8-1-6 (General Reduction Requirements) before such change may occur.

#### D.1.2 Particulate Matter Overspray Emissions [326 IAC 6-3-2(c)]

Pursuant to 326 IAC 6-3 (Process Operations), the PM emissions from the following operations shall be limited as follows:

- (a) PM overspray emissions from the recreational vehicle (RV) assembly lines shall not exceed the pound per hour emission rate established as E in the following formula:

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:

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

- (b) PM emissions from the Cabinet Shop's woodworking operation shall be limited to 1.8 pounds per hour.

## **Compliance Determination Requirements**

### **D.1.3 Testing Requirements [326 IAC 2-1.1-11]**

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The Permittee is not required to test these emission units by this permit. However, IDEM may require compliance testing when necessary to determine if the emission units are in compliance. If testing is required by IDEM, compliance with the VOC and PM limits specified in Condition D.1.1 and D.1.2 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

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

### **D.1.4 Record Keeping Requirements**

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- (a) To document compliance with Conditions D.1.1, the Permittee shall maintain the following records, to establish compliance with the VOC emission limit established in Condition D.1.1.
  - (1) The amount and VOC 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.
- (b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

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

**Technical Support Document (TSD) for New Construction and Minor  
Source Operation**

**Source Background and Description**

Source Name:	Forest River, Incorporated
Source Location:	3010 College Avenue, Goshen, Indiana 46527
County:	Elkhart
Operation Permit No.:	039-10468-00469
SIC Code:	3792
Permit Reviewer:	Aida De Guzman

The Office of Air Management (OAM) has reviewed an application from Forest River, Incorporated relating to the construction and operation of the following equipment used in the recreational vehicle (RV) production:

- (a) Salem/Wildwood Model assembly line, which is capable of producing 30 units per day and includes:
  - (1) A cabinet assembly area; and
  - (2) An adhesive/gluing operation of purchased frames and components. This operation is equipped with an airless spray system and High Velocity Low Pressure (HVLP) spray system. The adhesive/glue is applied either by brushed, wiped, sprayed or extruded.
  
- (b) Sierra/Sandpiper Model assembly line, which is capable of producing 22 units per day and includes:
  - (1) A cabinet assembly area; and
  - (2) An adhesive/gluing operation of purchased frames and components. This operation is equipped with an airless spray system, High Velocity Low Pressure (HVLP) and air atomization spray systems. The adhesive/glue is applied either by brushed, wiped, sprayed or extruded.
  
- (c) Fifty six (56) space heaters, each with a heat input capacity of 0.2 million Btu per hour (mmBtu/hr);
  
- (d) One (1) space heater, with a heat input capacity of 0.145 mmBtu/hr;
  
- (e) One (1) space heater, with a heat input capacity of 0.1 mmBtu/hr; and
  
- (f) One (1) Service Department, which is capable of repairing 3 units per day. This operation is equipped with an airless spray system and High Velocity Low Pressure (HVLP) spray system.

All the above facilities were constructed in 1997.

**Stack Summary**

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
Heater	56 heaters @ 0.2 mmBtu/hr	27	0.5	800 each	300
Heater	0.145 mmBtu/hr heater	27	0.33	580	300
Heater	0.1 mmBtu/hr heater	27	0.33	400	300
F-1 (fugitive)	Salem/Wildwood Assembly Line	-	-	-	-
F-2 (fugitive)	Sierra/Sandpiper	-	-	-	-
F-3 (fugitive)	Service Department	-	-	-	-

**Enforcement Issue**

IDEM is aware that the source has been constructed and operated in 1997, that is prior to the receipt of a proper permit. IDEM is reviewing this matter and will take appropriate action. This proposed permit is intended to satisfy the requirements of the construction permit rules.

**Recommendation**

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

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

A complete application for the purposes of this review was received on September 12, 1997.

**Emissions Calculations**

- (a) Natural Gas Combustion Emissions: See page 1 of 4 TSD Appendix A, for detailed calculations.
- (b) Cabinet Shop Woodworking Operation Emissions:  
 This Cabinet Shop merely cuts the purchased prefinished material to size and assembles cabinets using mechanical fasteners, such as screws, nails, lag screws, and machine screws.

An emission factor of 0.3 lb/ton was developed, based on mass balance and sieve analysis.

$$\begin{aligned}
 \text{PM Uncontrolled Emissions} &= 600 \text{ lb/hr} * \text{ton}/2000 \text{ lb} * 0.3\text{lb}/\text{ton} * \text{ton}/2000 \text{ lb} * 8760 \\
 &\text{hr/yr} \\
 &= 0.39 \text{ ton/yr}
 \end{aligned}$$

(c) Adhesive/Gluing Application HAPs Emissions: See spreadsheets Pages 2 through 4 TSD Appendix A, for detailed calculations.

			Salem/Wildwood Assembly Emissions				
Coatings ID	Gallon of Material per Unit	Maximum Number of Units per Day	Density (lb/gal)	Wt. Percent VOC	Transfer Efficiency	PM Emissions (tons/yr)	VOC Emissions (tons/yr)
676 Adhesive	0.03	30	6.26	79.2%	75%	0.05	0.81
7175S Base maker	0.00033	30	6.64	99.8%	50%	0.99	0.01
7601S-1 Blender	0.00445	30	9.02	67.1%	50%	0.93	0.15
ABS Cement	0.0245	30	7.09	100%	100%	0	0.95
ABS Cleaner	0.00222	30	6.61	90%	100%	0	0.07
Centari Paint	0.0025	30	10.95	60%	50%	0.03	0.09
Cronar	0.00022	30	7.51	89.3%	50%	0.0005	0.010
Spray Silicone	0.01	30	7.0	92%	75%	0.0076	0.35
GE Silicone	1.823	30	8.924	5%	100%	0	4.45
HyPlus Pipe Dope	0.00084	30	8.4	50%	100%	0	0.02
Mineral Spirits	0.106	30	8.514	100%	100%	0	4.92
MB2010 Adhesive	0.213	30	9.33	35.7%	100%	0	3.9
Polyester Glazing Putty	0.00011	30	15.00	25%	100%	0	0
Sikaflex 252	0.75	30	9.8	5.9%	100%	0	2.4
Sikaflex 221	0.42	30	10.0	6%	100%	0	1.4
Spray'n Go Paint	0.002	30	6.088	86.1%	75%	0.94	0.06
Sta-Put Adhesive	0.00067	30	6.505	80%	75%	0.001	0.02
Denatured Alcohol	0.00011	30	6.7	100%	100%	0	0.005
Total						2.9	19.6

			Sierra/Sandpiper Assembly Emissions				
Coatings ID	Gallon of Material per Unit	Maximum Number of Units per Day	Density (lb/gal)	Wt. Percent VOC	Transfer Efficiency	PM Emissions (tons/yr)	VOC Emissions (tons/yr)
676 Adhesive	0.03	22	6.26	79.2%	75%	0.03	0.59
7175S Base maker	0.00033	22	6.64	99.8%	50%	0.73	0.01
7601S-1 Blender	0.00445	22	9.02	67.1%	50%	0.49	0.11
ABS Cement	0.0245	22	7.09	100%	100%	0	0.63
ABS Cleaner	0.00222	22	6.61	90%	100%	0	0.05
Centari Paint	0.0025	22	10.95	60%	50%	0.022	0.066
Cronar	0.00022	22	7.51	89.3%	50%	0.0	0.007
Spray Silicone	0.01	22	7.0	92%	75%	0.006	0.25
GE Silicone	1.823	22	8.924	5%	100%	0	3.26
HyPlus Pipe Dope	0.00084	22	8.4	50%	100%	0	0.01
Mineral Spirits	0.106	22	8.514	100%	100%	0	3.6
MB2010 Adhesive	0.213	22	9.33	35.7%	100%	0	2.86
Polyester Glazing Putty	0.00011	22	15.00	25%	100%	0	0
Sikaflex 252	0.75	22	9.8	5.9%	100%	0	1.76
Sikaflex 221	0.42	22	10.0	6%	100%	0	1.02
Spray'n Go Paint	0.002	22	6.088	86.1%	75%	0.69	0.04
Sta-Put Adhesive	0.00067	22	6.505	80%	75%	0.0	0.01
Denatured Alcohol	0.00011	22	6.7	100%	100%	0	0.004
Total						2.0	14.5

			Service Department Emissions				
Coatings ID	Density (lb/gal)	Maximum Number of Units per Day	Gallon of Material per Unit	Wt. Percent VOC	Transfer Efficiency	PM Emissions (tons/yr)	VOC Emissions (tons/yr)
676 Adhesive	6.26	3	0.054000	79.2%	75%	0.96	0.15
7175S Base maker	6.64	3	0.006380	99.8%	50%	0.99	0.23
7601S-1 Blender	9.02	3	0.085100	67.1%	50%	0.86	0.28
ABS Cement	7.09	3	0.004680	100%	100%	0	0.02
ABS Cleaner	6.61	3	0.000426	90%	100%	0	0.002
8011 Adhesive	8.35	3	2.060000	0.6%	100%	0	0.056
Centari Paint	10.95	3	0.075000	60%	50%	0	0.27
Cronar	7.51	3	0.004260	89.3%	50%	0.99	0.015
Spray Silicone	7	3	0.024000	92%	75%	0	0.08
GE Silicone	8.924	3	0.348000	5%	100%	0	0
HyPlus Pipe Dope	8.4	3	0.000200	50%	100%	0	0.0
Mineral Spirits	8.514	3	0.202000	100%	100%	0	0.94
MB2010 Adhesive	9.33	3	0.042000	57.4%	100%	0	0.012
Polyester Glazing	15	3	0.002130	25%	100%	0.99	0.004
Sikaflex 252	9.8	3	1.435000	5.9%	100%	0	0.45
Sikaflex 221	10	3	0.798000	6%	100%	0	0.26
Spray'n Go Paint	6.088	3	0.003190	86.1	75%	0	0.01
Sta-Put Adhesive	6.505	3	0.007690	80%	75%	0	0.0
Total						4.79	2.8

Methodology:  
 VOC Emissions = gal/unit \* production/day \* density, lb/gal \* VOC Wt % \* ton/2000 lb \* 8760 hr/yr

PM Emissions = gal/unit \* production/day \* density, lb/gal \* (1-wt % VOC) \* (1-transfer Efficiency) \* 365 day/yr \* ton/2000 lb

HAP Emissions = gal/unit \* production/day \* density, lb/gal \* HAP Wt % \* ton/2000 lb \* 8760 hr/yr

Note: Considering the worst case emissions, all the materials are used at the same time, and therefore each material emissions will all be added to get the total. There are no PM overspray and VOC emissions control equipment installed for the facilities.

Summary of Emissions (tons/year)					
Pollutant	Natural Gas Combustion	Salem/Wildwood Assembly Line	Sierra/Sandpiper Assembly Line	Service Department	Total Emissions
PM/PM10	0.4	2.9	2.0	4.79	10.09
VOC	0.3	19.6	14.3	2.8	37.0
CO	4.2	0	0	0	4.2
SO2	0	0	0	0	0
NOx	5.0	0	0	0	5.0
Total Single HAP		Xylene = 4.0			
Total Combined HAPs		13.7			

**Potential To Emit**

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 Emissions (tons/year)
Particulate Matter (PM)	10.09
Particulate Matter (PM10)	10.09
Sulfur Dioxide (SO <sub>2</sub> )	0
Volatile Organic Compounds (VOC)	37.0
Carbon Monoxide (CO)	4.2
Nitrogen Oxides (NO <sub>x</sub> )	5.0
Single Hazardous Air Pollutant (HAP)	4.0
Combination of HAPs	13.22

HAP's	Potential To Emit (tons/year)
Xylene	4.0
Toluene	1.11
1,1,Trichloroethylene	2.68
MDI	0.39
Hexane	1.03
Ethyl Benzene	1.76
Methanol	0.09
MIBK	0.643
Styrene	0.42
MEK	1.59
TOTAL	13.7

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of volatile organic compounds (VOC) 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 2-7-1(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 HAPs is less than twenty-five (25) tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.
- (c) **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 applicability.

**Limited Potential to Emit**

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units.

Process/facility	Limited Potential to Emit (tons/year)						
	PM	PM-10	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs
Natural Gas Combustion	0.4	0.4	0	0.3	4.2	5.0	0
RV Production	9.69	9.69	0	36.7	0	0	13.7
<b>Total Emissions</b>	<b>10.09</b>	<b>10.09</b>	<b>0</b>	<b>37.0</b>	<b>4.2</b>	<b>5.0</b>	<b>13.7</b>

**County Attainment Status**

The source is located in Elkhart County.

Pollutant	Status (attainment, maintenance attainment, or unclassifiable; severe, moderate, or marginal nonattainment)
PM-10	attainment
SO <sub>2</sub>	attainment
NO <sub>2</sub>	attainment
Ozone	Maintenance attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO<sub>x</sub>) 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 and NO<sub>x</sub> emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Elkhart County has been classified as attainment or unclassifiable for all the 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.

## Source Status

New Source PSD Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity):

Pollutant	Emissions (ton/yr)
PM	10.09
PM10	10.09
SO <sub>2</sub>	0
VOC	37.0
CO	4.2
NO <sub>x</sub>	5.0
Single HAP	4.0
Combination HAPs	13.22

- (a) This new source is **not** a major stationary source because no attainment pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

## Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This new 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.

This is the first air approval issued to this source.

## Federal Rule Applicability

- (a) New Source Performance Standards:  
There are no New Source Performance Standards (326 IAC 12) and 40 CFR Part 60 applicable to this facility.
- (b) National Emissions Standards for Hazardous Air Pollutants (NESHAP)  
There are no NESHAPs (40 CFR Part 63) that would apply to this source.

## State Rule Applicability

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

(b) 326 IAC 6-2 (Particulate Emissions Limitations for Sources of Indirect Heating)  
The various natural gas fired space heaters are not subject 326 IAC 6-2 (Particulate Emissions Limitations for Sources of Indirect Heating), because they are not sources of indirect heating.

(c) 326 IAC 6-3 (Process Operations PM Emission Limitations)  
This rule applies to each coating operations in the assembly line (Salem/Wildwood; Sierra/Sandpiper and the Service Department), and the Cabinet Shop woodworking operation.

(1) This rule mandates a PM emissions overspray limit to each coating operations using the following equation:

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

Where: E = PM emissions limit in pounds per hour

P = Process weight rate in tons per hour

These assembly lines are not vented into the atmosphere, and therefore, are in compliance with this rule.

(2) Cabinet Shop Woodworking Operation:

$$\begin{aligned} E &= 4.10 P^{0.67} \\ &= 4.10 (600/2000)^{0.67} \\ &= 1.83 \text{ lb/hr} \\ &= 8.0 \text{ ton/yr} \end{aligned}$$

This Cabinet Shop is in compliance with 326 IAC 6-3 (Process Operations Emissions), because its uncontrolled PM emissions are less than the PM limit.

(d) 326 IAC 8-2-12 (Wood Furniture and Cabinet Coating Emissions Limitations)

(1) Sierra/Sandpiper Assembly Line - This rule does not apply to this facility, because the only wood that is coated at this line is structural wood and is not wood furniture.

(2) Salem/Wildwood Assembly Line - This rule does not apply to this facility, because the only wood that is coated at this line is structural wood and is not wood furniture.

(3) Service Department - This rule does not apply to this facility, because the only wood that is coated at this line is structural wood and is not wood furniture.

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

(1) Sierra/Sandpiper Assembly Line - This rule does not apply to this facility, because, precoated (outsourced) metal is used at this facility to make sheet metal repairs.

(2) Salem/Wildwood Assembly Line - This rule does not apply to this facility, because, precoated (outsourced) metal is used at this facility to make sheet metal repairs.

(3) Service Department - This rule does not apply to this facility, because, precoated (outsourced) metal is used at this facility to make sheet metal repairs.

- (f) 326 IAC 8-1-6 (General Reduction Requirements)  
This applies to new facilities constructed as of January 1, 1980, which have potential VOC emissions of 25 tons per year or greater, which are not otherwise regulated by other provisions of this article (326 IAC 8).
- (1) Sierra/Sandpiper Assembly Line - This facility is not subject to this rule, because its potential VOC emissions (14.3 tons/year) are less than 25 tons/year.
  - (2) Salem/Wildwood Assembly Line - This facility is not subject to this rule, because its potential VOC emissions (19.6 tons/year) are less than 25 tons/year.
  - (3) Service Department - This facility is not subject to this rule, because its potential VOC emissions (2.8 tons/year) are less than 25 tons/year.
- (g) 326 IAC 2-1-3.4 (New Sources Toxics Control)  
The source is an area source, and therefore is not subject to this rule.

### **Air Toxic Emissions**

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

- (a) This new source will emit levels of air toxics less than those which constitute a major source according to Section 112 of the 1990 Amendments to Clean Air Act.
- (b) See attached spreadsheets Page 1 through 4 TSD Appendix A, for detailed air toxic calculations.

### **Conclusion**

The construction of this new source will be subject to the conditions of the attached proposed **Construction Permit No. CP-039-10468-00469.**

**Appendix A: Emissions Calculations**

56 heaters @ .2 mmBtu/hr  
 1 heater @ .145 mmBtu/hr  
 1 heater @ .1 mmBtu/hr

**Natural Gas Combustion Only**

**MM BTU/HR <100**

**Small Industrial Boiler**

**Company Name:** Forest River, Incorporated  
**Address City IN Zip:** 3010 College Ave., Goshen, IN 46527  
**CP:** 039-10468  
**Plt ID:** 039-00469  
**Reviewer:** Aida De Guzman  
**Date:** Jan. 13, 1999

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
11.4	100.3

Emission Factor in lb/MMCF	Pollutant					
	PM	PM10	SO2	NOx	VOC	CO
	7.6	7.6	0.6	100.0	5.5	84.0
Potential Emission in tons/yr	0.4	0.4	0.0	5.0	0.3	4.2

**Methodology**

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

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

PM emission factors are condensable and filterable.

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

See page 2 for HAPs emissions calculations.

**Appendix A: Emission Calculations  
HAP Emission Calculations**

**Company Name:** Forest River, Incorporated  
**Address City IN Zip:** 3010 College Ave., Goshen, IN 46527  
**CP#:** 039-10468  
**Pit ID:** 039-00469  
**Permit Reviewer:** Aida De Guzman  
**Date:** Jan. 13, 1999

**HAPs Emissions From the Salem/Wildwood Assembly Line**

Material	Density (Lb/Gal)	Gallons of Material (gal/unit)	Maximum (unit/day)	Weight % Xylene	Weight % Toluene	Weight % 1,1,1 trichlor	Weight % MDI	Weight % Hexane	Weight % Ethyl Benzene	Weight % MIBK	Weight % Styrene	Weight % MEK	Weight % Methanol	Xylene Emissions (ton/yr)	Toluene Emissions (ton/yr)	1,1,1Trichlor Emissions (ton/yr)	MDI Emissions (ton/yr)	Hexane Emissions (ton/yr)	Ethyl Benzene Emissions (ton/yr)	Methanol Emissions (ton/yr)	MIBK Emissions (ton/yr)	Styrene Emissions (ton/yr)	MEK Emissions (ton/yr)
676Adhesive	6.26	0.03	30	0.00%	0.00%	0.00%	0.00%	40.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.00	0.00	0.00
7175S Base make	6.64	0.00033	30	8.00%	0.00%	0.00%	0.00%	0.00%	0.00%	6.00%	0.00%	0.00%	0.00%	.0009	0.00	0.00	0.00	0.00	0.00	0.00	0.0007	0.00	0.00
7601S-1 Blender	9.02	0.00445	30	11.00%	28.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	28.00%	0.00%	.024	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06
ABS Cement	7.09	0.0245	30	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	75.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.7
ABS Cleaner	6.61	0.00222	30	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	95.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.076
Oak Stain	7.26	0.000100	30	0.00%	32.90%	0.00%	0.00%	0.00%	0.00%	11.26%	0.00%	11.56%	0.00%	0.00	.0013	0.00	0.00	0.00	0.00	0.00	.00046	0.00	.00046
8011 Adhesive	8.35	1.08	30	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Centari Paint	10.95	0.0025	30	20.00%	11.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	4.00%	0.00%	.03	.016	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.006
Cronar	7.51	0.00022	30	32.90%	21.30%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	36.90%	0.00%	.003	.002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.0033
Brake cleaner	10.825	0.023000	30	0.00%	0.00%	99.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	1.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Spray Silicone	7.0	0.01	30	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GE Silicone	8.924	1.823	30	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HyPlus Pipe Dope	8.4	0.00084	30	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mineral Spirits	8.514	0.106	30	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MB2010 Adhesive	9.33	0.213	30	0.00%	5.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Polyester Glazing	15.00	0.000110	30	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	25.00%	0.00%	0.00%	0.00	0.00	0.00	.012	0.00	0.00	0.00	0.00	.022	0.00
Sikaflex 252	9.8	0.750000	30	2.00%	0.00%	0.00%	0.03%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sikaflex 221	10.0	0.420000	30	5.00%	0.00%	0.00%	0.00%	0.00%	4.00%	0.00%	0.00%	0.00%	0.00%	1.15	0.00	0.00	0.00	0.00	0.92	0.00	0.00	0.00	0.00
Spray'n Go Paint	6.088	0.002000	30	10.00%	5.00%	0.00%	0.00%	0.00%	3.00%	0.00%	0.00%	0.00%	0.00%	.007	.003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sta-Put Adhesive	6.505	0.00067	30	0.00%	0.00%	0.00%	0.00%	35.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	.008	0.00	0.00	.008	0.00	.008
Lacquer Thinner	7.189	0.000667	30.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	30.00%	0.00%	35.00%	9.50%	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00

Total State Potential Emissions **2.01**  
 Worst Single HAP **2.01**  
 Any Combined HAPs **6.47**

**METHODOLOGY**

HAPS emission rate (tons/yr) = Density (lb/gal) \* Gal of Material (gal/unit) \* Maximum (unit/day) \* Weight % HAP \* 365 day/yr \* 1 ton/2000 lbs

**Appendix A: Emission Calculations  
HAP Emission Calculations**

Company Name: Forest River, Incorporated  
 Address City IN Zip: 3010 College Ave., Goshen, IN 46527  
 CPH: 039-10468  
 PHT ID: 039-00469  
 Permit Reviewer: Aida De Guzman  
 Date: Jan. 13, 1999

**HAPs Emissions From the Sierra/Sandpiper Assembly Line**

Material	Density (Lb/Gal)	Gallons of Material (gal/unit)	Maximum (unit/day)	Weight % Xylene	Weight % Toluene	Weight % 1,1,1 trichlor	Weight % MDI	Weight % Hexane	Weight % Ethyl Benzene	Weight % MIBK	Weight % Styrene	Weight % MEK	Weight % Methanol	Xylene Emissions (ton/yr)	Toluene Emissions (ton/yr)	1,1,1Trichlor Emissions (ton/yr)	MDI Emissions (ton/yr)	Hexane Emissions (ton/yr)	Ethyl Benzene Emissions (ton/yr)	Methanol Emissions (ton/yr)	MIBK Emissions (ton/yr)	Styrene Emissions (ton/yr)	MEK Emissions (ton/yr)
676 Adhesive	6.26	0.030000	22.00	0.00%	0.00%	0.00%	0.00%	40.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.000000	0.00	0.00	0.00	0.30	0.00	0.00	0.00	0.00	0.00
7175S Base mat	6.64	0.000330	22.00	8.00%	0.00%	0.00%	0.00%	0.00%	0.00%	6.00%	0.00%	0.00%	0.00%	0.000704	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7601S-1 Blender	9.02	0.004450	22.00	11.00%	28.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	28.00%	0.00%	0.017727	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
ABS Cement	7.09	0.024500	22.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	75.00%	0.00%	0.000000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50
ABS Cleaner	6.61	0.002220	22.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	95.00%	0.00%	0.000000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
Oak Stain	7.26	0.000100	22.00	0.00%	32.90%	0.00%	0.00%	0.00%	0.00%	11.26%	0.00%	11.56%	0.00%	0.000000	0.00	0.00	0.00	0.00	0.00	0.00	0.0034	0.00	0.00
8011 Adhesive	8.35	1.080000	22.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.000000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Alpha Sealant	8.34	0.420000	22.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.000000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aliphatic Resin	9.49	0.409000	22.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.000000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Centari Paint	10.95	0.002500	22.00	20.00%	11.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	4.00%	0.00%	0.021982	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cronar	7.51	0.000220	22.00	32.90%	21.30%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	36.90%	0.00%	0.002182	.001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Brake cleaner	10.825	0.023000	22.00	0.00%	0.00%	99.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.000000	0.00	0.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Spray Silicone	7	0.010000	22.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.000000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GE Silicone	8.924	1.823000	22.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.000000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HyPlus Pipe Dope	8.4	0.000840	22.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.000000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mineral Spirits	8.514	0.106000	22.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.000000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MB2010 Adhesive	9.33	0.213000	22.00	0.00%	5.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.000000	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Polyester Glazing	15	0.000110	22.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	25.00%	0.00%	0.00%	0.000000	0.00	0.00	.0088	0.00	0.00	0.00	0.00	0.00	0.00
Rector Seal	11.01	0.001660	22.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.000000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0016	0.00
Sikaflex 252	9.8	0.750000	22.00	2.00%	0.00%	0.00%	0.03%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.590205	0.00	0.00	0.15	0.00	0.00	0.00	0.62	0.00	0.00
Sikaflex 221	10	0.420000	22.00	5.00%	0.00%	0.00%	0.00%	0.00%	4.00%	0.00%	0.00%	0.00%	0.00%	0.843150	0.00	0.00	0.00	0.00	0.67	0.00	0.00	0.00	0.00
Spray'n Go Paint	6.088	0.002000	22.00	10.00%	5.00%	0.00%	0.00%	0.00%	3.00%	0.00%	0.00%	0.00%	0.00%	0.004889	.003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sta-Put Adhesive	6.505	0.000670	22.00	0.00%	0.00%	0.00%	0.00%	35.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.000000	0.00	0.00	0.00	.006	0.00	0.00	0.00	0.00	.008
Lacquer Thinner	7.189	0.000667	22.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	30.00%	0.00%	35.00%	9.50%	0.000000	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00

Total State Potential Emissions **1.40**  
 Worst Single HAP **1.40**  
 Any Combined HAPs **5.25**  
**METHODOLOGY**

HAPS emission rate (tons/yr) = Density (lb/gal) \* Gal of Material (gal/unit) \* Maximum (unit/day) \* Weight % HAP \* 365 day/yr \* 1 ton/2000 lbs

**Appendix A: Emission Calculations**  
**HAP Emission Calculations**

**Company Name:** Forest River, Incorporated  
**Address City IN Zip:** 3010 College Ave., Goshen, IN 46527  
**CP#: 039-10468**  
**PIT ID: 039-00469**  
**Permit Reviewer:** Aida De Guzman  
**Date:** Jan. 13, 1999

**HAPS Emissions From the Service Department**

Material	Density (Lb/Gal)	Gallons of Material (gal/unit)	Maximum (unit/day)	Weight % Xylene	Weight % Toluene	Weight % 1,1,1 trichlor	Weight % MDI	Weight % Hexane	Weight % Ethyl Benzene	Weight % MIBK	Weight % Styrene	Weight % MEK	Weight % Methanol	Xylene Emissions (ton/yr)	Toluene Emissions (ton/yr)	1,1,1Trichlor Emissions (ton/yr)	MDI Emissions (ton/yr)	Hexane Emissions (ton/yr)	Ethyl Benzene Emissions (ton/yr)	Methanol Emissions (ton/yr)	MIBK Emissions (ton/yr)	Styrene Emissions (ton/yr)	MEK Emissions (ton/yr)
676Adhesive	6.26	0.054000	3.00	0.00%	0.00%	0.00%	0.00%	40.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.070000	0.00	0.00	0.00	0.30	0.00	0.00	0.00	0.00	0.00
7175S Base make	6.64	0.06380	3.00	8.00%	0.00%	0.00%	0.00%	0.00%	0.00%	6.00%	0.00%	0.00%	0.00%	0.001856	0.00	0.00	0.00	0.00	0.00	0.00	.0013	0.00	0.00
7601S-1 Blender	9.02	0.085100	3.00	11.00%	28.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	28.00%	0.00%	0.046229	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11
ABS Cement	7.09	0.004680	3.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	75.00%	0.00%	0.000000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
ABS Cleaner	6.61	0.000426	3.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	95.00%	0.00%	0.000000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.0015
8011 Adhesive	8.35	2.060000	3.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.000000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Alpha Sealant	8.34	0.798000	3.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.000000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aliphatic Resin	9.49	0.089200	3.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.000000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Centari Paint	10.95	0.075000	3.00	20.00%	11.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	4.00%	0.00%	0.049000	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cronar	7.51	0.004260	3.00	32.90%	21.30%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	36.90%	0.00%	0.005763	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Brake cleaner	10.825	0.058000	3.00	0.00%	0.00%	99.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.000000	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Spray Silicone	7	0.024000	3.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.000000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GE Silicone	8.924	0.348000	3.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.000000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HyPlus Pipe Dope	8.4	0.000200	3.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.000000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mineral Spirits	8.514	0.202000	3.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.000000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MB2010 Adhesive	9.33	0.042000	3.00	0.00%	5.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.000000	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Polyester Glazing	15	0.002130	3.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	25.00%	0.00%	0.00%	0.000000	0.00	0.00	.0088	0.00	0.00	0.00	0.00	.004	0.00
Rector Seal	11.01	0.003200	3.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.000000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.0016	0.00
Sikaflex 252	9.8	1.435000	3.00	2.00%	0.00%	0.00%	0.03%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.153990	0.00	0.00	.002	0.00	0.00	0.00	0.00	0.00	0.00
Sikaflex 221	10	0.798000	3.00	5.00%	0.00%	0.00%	0.00%	0.00%	4.00%	0.00%	0.00%	0.00%	0.00%	0.218453	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.00	0.00
Spray'n Go Paint	6.088	0.003190	3.00	10.00%	5.00%	0.00%	0.00%	0.00%	3.00%	0.00%	0.00%	0.00%	0.00%	0.001063	.0005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sta-Put Adhesive	6.505	0.007690	3.00	0.00%	0.00%	0.00%	0.00%	35.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.000000	0.00	0.00	0.00	.009	0.00	0.00	0.00	0.00	0.00

Total State Potential Emissions **0.59**  
 Worst Single HAP **0.59**  
 Any Combined HAPs **1.50**

**METHODOLOGY**

HAPS emission rate (tons/yr) = Density (lb/gal) \* Gal of Material (gal/unit) \* Maximum (unit/day) \* Weight % HAP \* 365 day/yr \* 1 ton/2000 lbs