



Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
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TO: Interested Parties / Applicant
DATE: March 3, 2008
RE: Forest River, Inc. - Wolfpack Division / 039-25833-00673
FROM: Matthew Stuckey, Deputy Branch Chief
Permits Branch
Office of Air Quality

Notice of Decision – Approval

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 326 IAC 2, this approval was effective immediately upon submittal of the application.

If you wish to challenge this decision, IC 4-21.5-3-7 requires that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204, **within eighteen (18) calendar days from the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

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

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

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

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

Enclosures
FNPER-AM.dot12/3/07



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We make Indiana a cleaner, healthier place to live.

Mitchell E. Daniels, Jr
Governor

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March 3, 2008

William Conway
Forest River, Inc /Wolfpack Division
P.O. Box 3030
Elkhart, Indiana 46515-3030

Re: Exempt Construction and Operation Status,
039-25833-00673

Dear Mr. Conway:

The application from Forest River, Inc /Wolfpack Division, received on January 2, 2008, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-1.1-3, it has been determined that the following stationary non-motorized travel trailer manufacturing facility located at 827 Lake Street, Topeka, IN 46571 is classified as exempt from air pollution permit requirements:

- (a) One (1) trailer assembly and finishing operation, constructed in 2005, which assembles non-motorized travel trailers and campers, at a maximum throughput of 0.25 trailers per hour, venting to the indoors, including the following; surface coating operations using hand-held aerosol cans, manual adhesive application systems and caulk guns. The assembly line consists of four stations:
 - (1) Trailer base construction, identified as EU-1, wood framing and walls are added to a pre-constructed trailer base
 - (2) Interior construction, identified as EU-3, cabinets, carpeting, flooring, plumbing and wiring are installed
 - (3) Exterior construction, identified as EU-4, outer shell, windows, trim and sealant are added
 - (4) Final assembly, identified as EU-5, roof added and sealed, paint touch up, final caulking, and clean-up
- (b) One (1) woodworking operation, identified as EU-2, constructed in 2005, consisting of cutting, sawing, drilling, and/or routing of wood, with a maximum throughput capacity of 0.15 tons of wood per hour, and with particulate emissions from the emission units controlled by two (2) fabric filter collection systems, identified as CD-01 and CD-02. The woodworking operation consists of the following emission units: table saws, chop saws, band saws, and miscellaneous hand operated saws, routers, sanders, and drills. The dust collectors, CD-01 and CD-02, are considered integral to the woodworking process.
- (c) Six (6) natural gas-fired forced air space heaters, identified as SH-1 through SH-6, respectively, constructed in 2005, venting inside the building, with a combined maximum heat input capacity of 0.765 million British thermal units per hour (MMBtu/hr).

The following conditions shall be applicable:

- (1) 326 IAC 5-1-2 (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:

- (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 15 minutes (60 readings) in a 6-hour period 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.
- (2) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-2, particulate emissions from the woodworking (EU-2) operation shall be limited to five hundred fifty-one thousandths (0.551) pound per hour, for a process rate less than one hundred (100) pounds of wood per hour. In order to comply with the allowable rate of emission, the two (2) baghouse dust collectors, CD-01 and CD-02, shall be in operation at all times when the woodworking station is in operation.
- (3) 326 IAC 6-4 (Fugitive Dust Emissions Limitations)
Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source 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.
- (4) 326 IAC 8-2-9 (Miscellaneous metal coating operations)
To render the requirements of 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations) not applicable, the owner or operator of this source shall comply with the following:
 - (a) The VOC usage for the trailer assembly and finishing operation shall be less than 15.0 pounds per day.
 - (b) To document compliance with this limit, the owner or operator of this source shall maintain records for the total VOC usage for the trailer assembly and finishing operation each day. These records shall be taken as stated below and shall be complete and sufficient to establish compliance with the VOC emission limit for the trailer assembly and finishing operation:
 - (1) The amount and VOC content of each coating material, dilution solvent, and cleanup solvent used for each day. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount of materials used.
 - (2) The total VOC usage for each day.
 - (c) Records of all required monitoring data, reports and support information required by this exemption shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the owner or operator of this source, the owner or operator of this source shall furnish the records to the Commissioner within a reasonable time.
 - (d) Unless otherwise specified in this exemption, all record keeping requirements not already legally required shall be implemented within ninety (90) days of approval date of this exemption.

- (5) Any change or modification which may increase the potential to emit of a single Hazardous Air Pollutant (HAP) to 10 tons per year or greater, or that of Volatile Organic Compounds (VOC) or any combination of HAPs to 25 tons per year or greater, shall require prior approval of the Office of Air Quality (OAQ).

This exemption is the first air approval issued to this source.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source. If you have any questions on this matter, please contact Sandra Carr, OAQ, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana, 46204-2251, at 317-234-5377 or at 1-800-451-6027 (ext 45377).

Sincerely,

Original document signed by

Iryn Calilung, Section Chief
Permits Branch
Office of Air Quality

IC/sec

cc: File - LaGrange County
LaGrange County Health Department
Air Compliance Section
IDEM Northern Regional Office
Permit Tracking
Compliance Data Section
Permits Administrative and Development
Billing, Licensing and Training Section

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for an Exemption

Source Description and Location

Source Name:	Forest River, Inc. /Wolfpack Division
Source Location:	827 Lake Street, Topeka, IN 46571
County:	LaGrange
SIC Code:	3792
Exemption No.:	039-25833-00673
Permit Reviewer:	Sandra Carr

On January 2, 2008, the Office of Air Quality (OAQ) has received an application from Forest River, Inc. /Wolfpack Division related to the construction and operation of a stationary non-motorized travel trailer manufacturing facility.

Existing Approvals

There have been no previous approvals issued to this source.

County Attainment Status

The source is located in LaGrange County.

Pollutant	Designation
SO ₂	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O ₃	Unclassifiable or attainment effective June 15, 2004, for the 8-hour ozone standard. ¹
PM ₁₀ *	Unclassifiable effective November 15, 1990.
NO ₂	Cannot be classified or better than national standards.
Pb	Not designated.
¹ Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005. *Unclassifiable or attainment effective April 5, 2005, for PM _{2.5} .	

(Air Pollution Control Board; 326 IAC 1-4-45; filed Dec 26, 2007, 1:43 p.m.: 20080123-IR-326070308FRA)

(a) Ozone Standards

- (1) On October 25, 2006, the Indiana Air Pollution Control Board finalized a rule revision to 326 IAC 1-4-1 revoking the one-hour ozone standard in Indiana.
- (2) On September 6, 2007, the Indiana Air Pollution Control Board finalized a temporary emergency rule to re-designate Allen, Clark, Elkhart, Floyd, LaPorte, St. Joseph as attainment for the 8-hour ozone standard.
- (3) On November 9, 2007, the Indiana Air Pollution Control Board finalized a temporary emergency rule to re-designate Boone, Clark, Elkhart, Floyd, LaPorte, Hamilton, Hancock, Hendricks, Johnson, Madison, Marion, Morgan, Shelby, and St. Joseph as attainment for the 8-hour ozone standard.

- 4) Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to ozone. LaGrange County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (b) LaGrange County has been classified as attainment for PM2.5. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM2.5 emissions. Therefore, until the U.S. EPA adopts specific provisions for PSD review for PM2.5 emissions, it has directed states to regulate PM10 emissions as a surrogate for PM2.5 emissions.
- (c) Other Criteria Pollutants
LaGrange County has been classified as attainment or unclassifiable in Indiana for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

The fugitive emissions of criteria pollutants and hazardous air pollutants are counted toward the determination of 326 IAC 2-1.1-3 (Exemptions) applicability.

Background and Description of Emission Units and Pollution Control Equipment

The Office of Air Quality (OAQ) has reviewed an application, submitted by Forest River, Inc. /Wolfpack Division on January 2, 2008, relating to the construction and operation of a stationary non-motorized travel trailer manufacturing facility.

The source consists of the following existing emission unit(s):

- (a) One (1) trailer assembly and finishing operation, constructed in 2005, which assembles non-motorized travel trailers and campers, at a maximum throughput of 0.25 trailers per hour, venting to the indoors, including the following; surface coating operations using hand-held aerosol cans, manual adhesive application systems and caulk guns. The assembly line consists of four stations:
 - (1) Trailer base construction, identified as EU-1, wood framing and walls are added to a pre-constructed trailer base
 - (2) Interior construction, identified as EU-3, cabinets, carpeting, flooring, plumbing and wiring are installed
 - (3) Exterior construction, identified as EU-4, outer shell, windows, trim and sealant are added
 - (4) Final assembly, identified as EU-5, roof added and sealed, paint touch up, final caulking, and clean-up
- (b) One (1) woodworking operation, identified as EU-2, constructed in 2005, consisting of cutting, sawing, drilling, and/or routing of wood, with a maximum throughput capacity of 0.15 tons of wood per hour, and with particulate emissions from the emission units controlled by two (2) fabric filter collection systems, identified as CD-01 and CD-02. The woodworking operation consists of the following emission units: table saws, chop saws, band saws, and miscellaneous hand operated saws, routers, sanders, and drills. The dust collectors, identified as CD-01 and CD-02, are considered integral to the woodworking process.

- (c) Six (6) natural gas-fired forced air space heaters, identified as SH-1 through SH-6, respectively, constructed in 2005, venting inside the building, with a combined maximum heat input capacity of 0.765 million British thermal units per hour (MMBtu/hr).

“Integral Part of the Process” Determination

The applicant has submitted the following information to justify why the dust collectors should be considered an integral part of their woodworking operations.

- (a) The primary purpose of the dust collectors CD-01 and CD-02 is to allow continuous operation of the woodworking equipment. Specifically, the dust collectors keep the cutting surface clear of wood chips that would clog the equipment and would require that the production line be shut down in order to clear the equipment.
- (b) The dust collectors are used to control dust so that workers can work in the area without damage to their health. These dust collectors would be in use even without the air quality regulations.
- (c) If the dust collectors were to malfunction, production at the facility could not continue. The multi-step surface coating which is applied to the trailers is susceptible to dust entrainment and would be ruined if the dust collectors were not used. The annual cost to operate the dust collectors is less than the cost of replacing the outer shell of a trailer.

IDEM, OAQ has determined that the dust collectors used for PM/PM₁₀ control of the woodworking operations at this stationary non-motorized travel trailer manufacturing facility are an integral part of the woodworking operation. Therefore, the permitting level will be determined using the potential to emit after the dust collectors. Operating conditions in the proposed permit will specify that these dust collectors, identified as CD-01 and CD-02, shall operate at all times when the woodworking operation, identified as EU-2, is in operation.

Enforcement Issues

There are no pending enforcement actions related to this source.

Emission Calculations

- (a) See Appendix A of this TSD for detailed emissions calculations.
- (b) Based on information provided by the source, the source applies sealers, caulks, adhesives, and touch-up paint surface coatings to wood and metal surfaces. These coating are applied using hand-held aerosol cans, extrusion, roll coating, brushing, wiping, or hand-held caulk guns. The surface coatings applied to metal surfaces are CYCLO Brake Cleaner C111 and CYCLO Silicone Spray C-33.

Permit Level Determination – Exemption

The following table reflects the unlimited potential to emit (PTE) of the entire source before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Process/Emission Unit	Unlimited Potential To Emit of the Entire Source (ton/year)							
	PM	PM10*	SO ₂	NOx	VOC	CO	Total HAPs	Worst Single HAP
Trailer Assembly (EU-1, EU-3, EU-4, EU-5)	0.14	0.14			6.79		1.84	0.58 (Styrene)
Woodworking (EU-2) ** with CD-01 & CD-02	1.05	1.05						negl.
Combustion (SH-1 thru SH-6)	0.03	0.03	0.002	0.34	0.02	0.28		negl.
Fugitive Emissions	0.002	0.0003						
Total PTE of Entire Source	1.21**	1.21**	0.002	0.34	6.81	0.28	1.84	0.58 (Styrene)

negl. = negligible
 * Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". The US EPA has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions.
 ** The OAQ has determined that the dust collectors, CD-01 and CD-02, are considered integral to the woodworking process.

Criteria Pollutants

- (a) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1(16)) of all regulated criteria pollutants are less than the levels listed in 326 IAC 2-1.1-3(e)(1). Therefore, the source is subject to the provisions of 326 IAC 2-1.1-3 (Exemptions).

Hazardous Air Pollutants

- (b) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1(16)) of any single HAP is less than ten (10) tons per year and the PTE of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-7.

Federal Rule Applicability Determination

New Source Performance Standards (NSPS)

- (a) This source is not subject to the requirements of the New Source Performance Standards (NSPS), 40 CFR 60, Subpart MM, Automobile and Light Duty Truck Surface Coating Operations (40 CFR Parts 60.390 - 60.398) (326 IAC 12), is not involved in the surface coating of automobiles or light duty trucks. This source assembles non-motorized travel trailers for attachment to passenger cars or other vehicles using pre-manufactured components.
- (b) There are no New Source Performance Standards (NSPS)(40 CFR Part 60) included in the permit.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

- (a) This source is not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR 63, Subpart JJ, Wood Furniture Manufacturing (40 CFR Part 63.800 - 63.808) (326 IAC 20-14-1), because this source is not a major source of HAPs as defined in 40 CFR 63.2 and does not manufacture wood

furniture or wood furniture components. All wood furniture and wood furniture components installed in the travel trailers are shipped to the source pre-manufactured and pre-coated.

- (b) This source is not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR 63, Subpart IIII, Surface Coating of Automobiles and Light-Duty Trucks (40 CFR Part 63.3080 - 63.3176), because this source is not a major source of HAPs as defined in 40 CFR 63.2 and does not surface coat automobiles or light duty trucks as defined by 63.3176. This source assembles non-motorized travel trailers for attachment to passenger cars or other vehicles using pre-manufactured components.
- (c) This source is not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR 63, Subpart MMMM, Surface Coating of Miscellaneous Metal Parts and Products (40 CFR Part 63.3880 - 63.3981), because this source is not a major source of HAPs as defined in 40 CFR 63.2.
- (d) This source is not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs), 40 CFR 63, Subpart PPPP, Surface Coating of Plastic Parts and Products (40 CFR Part 63.4480 - 63.4581), because the source is not a major source of HAPs as defined in 40 CFR 63.2.
- (e) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in the permit.

Compliance Assurance Monitoring (CAM)

- (f) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is not included in the permit, because the unlimited potential to emit of the source is less than the Title V major source thresholds and the source is not required to obtain a Part 70 or Part 71 permit.

State Rule Applicability Determination

The following state rules are applicable to the source:

- (a) 326 IAC 2-1.1-3 (Exemptions)
Exemption applicability is discussed under the Permit Level Determination – Exemption section above.
- (b) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The potential to emit of any single HAP is less than ten (10) tons per year and the potential to emit of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-4.1.
- (c) 326 IAC 2-6 (Emission Reporting)
Pursuant to 326 IAC 2-6-1, this source is not subject to this rule, because it is not required to have an operating permit under 326 IAC 2-7 (Part 70), it is not located in Lake, Porter, or LaPorte County, and it does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Therefore, 326 IAC 2-6 does not apply.
- (d) 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:

- (1) 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.
 - (2) 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.
- (e) 326 IAC 6-4 (Fugitive Dust Emissions Limitations)
Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source 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.
- (f) 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)
The source is not subject to the requirements of 326 IAC 6-5, because the source does not have potential fugitive particulate emissions greater than 25 tons per year. Therefore, 326 IAC 6-5 does not apply.

State Rule Applicability - Individual Facilities

326 IAC 8-1-6 (VOC rules: General Reduction Requirements for New Facilities)

The requirements of 326 IAC 8-1-6 are not applicable, since each of the emission units at this source does not have the potential to emit greater than twenty-five (25) tons of VOCs per year.

State Rule Applicability - Surface Coating Operations (EU-1, EU-3, EU-4, EU-5)

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

Pursuant to 326 IAC 6-3-1(b)(14), each of the surface coating activities is exempt from the requirements of 326 IAC 6-3, because the potential particulate emissions are less than five hundred fifty-one thousandths (0.551) pound per hour.

- (1) All coatings, with the exception of the 92 Tape Primer Adhesive Promoter, CYCLO Brake Cleaner C111, CYCLO Silicone Spray C-33, and DAP Spray'N Go Spray paint, are applied by extrusion, roll coating, brushing or wiping. These application methods do not cause particulate emissions, and are exempt from the requirements of 326 IAC 6-3-2 pursuant to 326 IAC 6-3-1(b).
- (2) The aerosol coatings which are not exempt in (a)(1) above use less than five (5) gallons per day, and are therefore exempt under 326 IAC 6-3-1(b)(15).

326 IAC 8-2-2 (Volatile Organic Compounds, Automobile and Light Duty Truck Coating Operations)

The requirements of 326 IAC 8-2-2 are not applicable to this source, since this source does not perform surface coating of automobiles or light duty trucks as defined in 326 IAC 8-2-2(a). This source assembles non-motorized travel trailers for attachment to passenger cars or other vehicles using pre-manufactured components.

326 IAC 8-2-9 (Volatile Organic Compounds, Miscellaneous Metal Coating Operations)

Pursuant to 326 IAC 8-2-1, the provisions of 326 IAC 8-2-9 apply to miscellaneous metal coating operations constructed after July 1, 1990, located in any county, and which have actual emissions of greater than fifteen (15) pounds per day before add-on controls. The potential to emit of the trailer assembly and finishing operation is greater than fifteen (15) pounds per day, but the source has opted to limit the VOC input to less than fifteen (15) pounds per day in order to render the requirements of 326 IAC 8-2-9 not applicable. Therefore, the owner or operator of this source shall comply with the following:

- (a) The actual VOC usage for the trailer assembly and finishing operation shall be less than 15.0 pounds per day.
- (b) To document compliance with this limit, the owner or operator of this source shall maintain records for the total VOC usage for the trailer assembly and finishing operation each day. These records shall be taken as stated below and shall be complete and sufficient to establish compliance with the VOC emission limit for the trailer assembly and finishing operation:
 - (1) The amount and VOC content of each coating material, dilution solvent, and cleanup solvent used for each day. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount of materials used.
 - (2) The total VOC usage for each day.
- (c) Records of all required monitoring data, reports and support information required by this exemption shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the owner or operator of this source, the owner or operator of this source shall furnish the records to the Commissioner within a reasonable time.
- (d) Unless otherwise specified in this exemption, all record keeping requirements not already legally required shall be implemented within ninety (90) days of approval date of this exemption.

326 IAC 8-2-10 (Volatile Organic Compounds, Flat Wood Panels Manufacturing Operations)

The requirements of 326 IAC 8-2-10 are not applicable to this source, since this source does not perform manufacturing of flat wood panels.

326 IAC 8-2-11 (Volatile Organic Compounds, Fabric and Vinyl Coating)

The requirements of 326 IAC 8-2-11 are not applicable to this source, since this source does not perform surface coating of fabric or vinyl as defined by 326 IAC 8-2-11(a).

326 IAC 8-2-12 (Volatile Organic Compounds, Wood Furniture and Cabinet Coating)

The requirements of 326 IAC 8-2-12 are not applicable to this source, since this source does not perform surface coating of wood furniture or cabinets. All wood furniture and wood furniture components installed in the travel trailers are shipped to the source pre-manufactured and pre-coated. Surface coating of wood at this source consists of surface coating of structural wood with adhesives, which is not subject to this rule.

326 IAC 8-11-3 (Volatile Organic Compounds, Wood Furniture Coatings)

The requirements of 326 IAC 8-11-3 are not applicable to this source, since this source does not perform manufacturing of wood furniture.

State Rule Applicability – Natural Gas Combustion Sources (SH-1 – SH-6)

326 IAC 4-2-2 (Incinerators)

The natural gas-fired space heaters and furnaces are not incinerators, as defined by 326 IAC 1-2-34, since they do not burn waste substances. Therefore, these ovens are not subject to 326 IAC 4-2-2.

326 IAC 6-2 (Particulate Emissions from Indirect Heating Units)

The natural gas-fired space heaters are not subject to 326 IAC 6-2 as they are not sources of indirect heating.

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

Pursuant to 326 IAC 6-3-1(b)(14), each of the natural gas-fired space heaters are exempt from the requirements of 326 IAC 6-3, because they each have a potential particulate emissions less than five hundred fifty-one thousandths (0.551) pound per hour.

326 IAC 7-1 (Sulfur dioxide emission limitations: applicability)

The natural gas-fired space heaters are each not subject to the requirements of 326 IAC 7-1, because the potential and the actual emissions are less than twenty-five (25) tons per year and ten (10) pounds per hour respectively.

State Rule Applicability - Woodworking Operations (EU-2)

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

The requirements of 326 IAC 6-3 are applicable to woodworking and routing facilities at this source. Pursuant to 326 IAC 6-3-2(e)(2), the particulate emissions from the woodworking station shall not exceed five hundred fifty-one thousandths (0.551) pound per hour, for a process weight rate less than one hundred pounds of wood per hour (100 pounds of wood per hour).

In order to comply with the allowable rate of emission, the dust collectors CD-01 and CD-02, which are considered integral to the woodworking process, shall be in operation at all times when the woodworking station is in operation.

Conclusion and Recommendation

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 January 2, 2008.

The operation of this source shall be subject to the conditions of the attached proposed Exemption No. 039-25833-00673. The staff recommends to the Commissioner that this Exemption be approved.

IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Sandra Carr at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 234-5377 or toll free at 1-800-451-6027 extension 45377.
- (b) A copy of the findings is available on the Internet at: www.in.gov/idem/permits/air/pending.html.
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.in.gov/idem/permits/guide/.

**Emission Calculations
Summary**

Company Name: Forest River, Inc /Wolfpack Division
Address City IN Zip: 827 W Lake Street, Topeka, IN 46571
Permit Number: 039-25833-00673
Reviewer: Sandra Carr
Application Date: January 2, 2008

Before Controls

Pollutants (tons/yr)

Emission Units	PM	PM10	SO2	NOx	VOC	CO	Combined HAP	Individual HAP
EU-1,3,4, 5	0.14	0.14			6.79		1.97	0.58
EU-2 (Woodworking)	52.52	52.52						
Combustion (SH-1 - SH-6)	0.03	0.03	0.002	0.34	0.02	0.28	0.006	0.006
Fugitives	0.002	0.0003						
Totals	52.68	52.68	0.002	0.34	6.81	0.28	1.98	0.59

(Styrene)

After Controls

Pollutants (tons/yr)

Emission Units	PM	PM10	SO2	NOx	VOC	CO	Combined HAP	Individual HAP
EU-1,3,4,5	0.14	0.14			6.79		1.97	0.58
EU-2 (Woodworking)**	1.05	1.05						
Combustion (SH-1 - SH-6)	0.03	0.03	0.002	0.34	0.02	0.28	0.006	0.006
Fugitives	0.001	0.0001						
Totals	1.21	1.21	0.002	0.34	6.81	0.28	1.98	0.59

(Styrene)

** The dust collectors, CD-01 and CD-02, are considered integral to the woodworking process.

**Emission Calculations
PTE of PM**

**Company Name: Forest River, Inc /Wolfpack Division
Address City IN Zip: 827 W Lake Street, Topeka, IN 46571
Permit Number: 039-25833-00673
Reviewer: Sandra Carr
Application Date: January 2, 2008**

Units per day 6 Units/24 hour
Production Rate: 0.25 Units/hr

Material	Usage	Density	% Solid	lbs Solid	Transfer	lbs Solid	VOC	Particulate
	gal/unit	lb/gal	in Matl.	per unit	Efficiency	emitted/unit	%	PTE (tons/yr)
SUPER DUTY RUBBING COMPOUND QT 3M (05954)	0.003	11.500	86%	0.030	100%	0.00	23%	0.000
92 TAPE PRIMER ADHESIVE PROMOTER	0.020	6.84	6%	0.008	100%	0.00	91%	0.000
ABS Cement	0.100	7.414	25%	0.185	100%	0.00	75%	0.000
All in one Clear 10 clear Caulk	0.030	12.340	99%	0.366	100%	0.00	0.006%	0.000
All Purpose Construction Adhesive--Beats The Nail	0.110	10.970	74%	0.893	100%	0.00	25%	0.000
Boringsmith Tank Adhesive	0.020	5.800	12%	0.014	100%	0.00	87%	0.000
Buffing Compound 3M (6044)	0.020	9.670	86%	0.166	100%	0.00	31%	0.000
Clear Caulk 2350 (Geocel) 10oz	0.762	13.340	98%	9.962	100%	0.00	0.0172%	0.000
CSA Pipe Dope Rectorseal	0.010	11.500	77%	0.089	100%	0.00	16%	0.000
Cyclo Max Clean (C-192)	0.020	8.340	83%	0.138	65%	0.05	10%	0.058
CYCLO Brake Cleaner C111	metal 0.010	6.670	97%	0.065	65%	0.02	35%	0.017
CYCLO Silicone Spray C-33	metal 0.020	5.580	40%	0.045	65%	0.02	92%	0.003
DAP Spray'N GO Gloss Blk Spry Paint (12oz)	0.010	6.670	43%	0.029	65%	0.01	57%	0.011
Denatured Alcohol	0.100	6.620	0%	0.000	100%	0.00	100%	0.000
Dicor 502 - 10 oz	0.800	9.750	0%	0.000	100%	0.00	0%	0.000
Dicor 502 -5 Gallon	0.100	9.750	0%	0.000	100%	0.00	0%	0.000
Fast Dry Acrylic Laquer Thinner	0.050	6.690	13%	0.042	100%	0.00	87.5%	0.000
Fiberglass Resin (58020)	0.120	9.590	65%	0.748	100%	0.00	35%	0.000
Fiberglass Resin GL & Hardener 40cc	0.020	9.950	100%	0.199	100%	0.00	0%	0.000
Finishing Compound 3M (# 5995)	0.010	10.800	100%	0.108	100%	0.00	12%	0.000
Gallon Cleaner (Oatey) .5 GAL	0.010	6.747	20%	0.013	100%	0.00	100%	0.000
Mineral Spirits	0.280	6.300	1%	0.018	100%	0.00	100%	0.000
PERFECT IT III RUBBING COMPOUND QT 3M (5933)	0.010	8.790	57%	0.050	100%	0.00	7%	0.000
Polyester Glazing Putty .5GL	0.010	14.900	0.800	0.119	100%	0.00	0.050%	0.000
Red Cream Hardener	0.000	11.090	85%	0.000	100%	0.00	0.009%	0.000
Sheet floor adhesive 4 (GAL) Armstrong S-235	0.320	9.420	40%	1.206	100%	0.00	59.45%	0.000
Spray Away Glass Cleaner 19 oz (S50)	0.020	7.920	0%	0.000	65%	0.00	19%	0.049
Feather Rite GL (21330)	0.010	9.674	100%	0.097	100%	0.00	20%	0.000
Acetone 5GL (TCI Products)	0.100	6.580	0%	0.000	100%	0.00	0%	0.000
Red Devil Caulk (65)	0.020	11.640	100%	0.233	100%	0.00	0%	0.000
Henkel, 905BA, Water Based Adhesive	4.000	8.340	49%	16.346	100%	0.00	0%	0.000
FIBREGLOSS, 156, LITE WEIGHT 3 BODY FILLER GL	0.010	10.400	65%	0.068	100%	0.00	14%	0.000
DC12381 HAPS Free Adhesive (royal Adhesive)	0.780	9.760	69%	5.253	100%	0.00	30%	0.000

0.138 tons PM /year

Production Rate:

0.25 Units/hr

2190	Maximum Units/year
------	-----------------------

275.47 lb PM /yr
0.14 tons PM/yr

Maximum Emissions			
PM	0.03	lbs/hr	0.14 tons PM/yr
PM10	0.03	lbs/hr	0.14 tons PM10/yr

**Emission Calculations
VOC & HAP Emissions**

Company Name: Forest River, Inc /Wolfpack Division
Address City IN Zip: 827 W Lake Street, Topeka, IN 46571
Permit Number: 039-25833-00673
Reviewer: Sandra Carr
Application Date: January 2, 2008

Material	Usage	Density	Usage	%	lb VOC	Percent	lb Hexane	Percent	lb Xylene	Percent	lb Toluene	Percent	lb Ethylbenzene
	gal/unit	lb/gal	lb/unit	VOC	per unit	Hexane	per unit	Xylene	per unit	Toluene	per unit	Ethylbenzene	per unit
SUPER DUTY RUBBING COMPOUND QT 3M (05954)	0.003	11.500	0.035	23	0.008								
92 TAPE PRIMER ADHESIVE PROMOTER	0.020	6.84	0.137	91	0.124			35	0.048			7	0.010
ABS Cement	0.100	7.414	0.741	75	0.556								
All in one Clear 10 clear Caulk	0.030	12.340	0.370	0.006	0.000								
All Purpose Construction Adhesive--Beats The Nail	0.110	10.970	1.207	25	0.302	10	0.121						
Borningsmith Tank Adhesive	0.020	5.800	0.116	87	0.101								
Buffing Compound 3M (6044)	0.020	9.670	0.193	31	0.060								
Clear Caulk 2350 (Geocel) 10oz	0.762	13.340	10.165	0.0172	0.002								
CSA Pipe Dope Reactor Sealant	0.010	11.500	0.115	16	0.018								
Cyclo Max Clean (C-192)	* 0.020	8.340	0.167	1	0.002								
CYCLO Brake Cleaner C111	metal * 0.010	6.670	0.067	35	0.023					1	0.001		
CYCLO Silicone Spray C-33	metal * 0.020	5.580	0.112	92	0.103								
DAP Spray'N GO Gloss Blk Spry Paint (12oz)	* 0.010	6.670	0.067	57	0.038			5	0.334	32	0.021		
Denatured Alcohol	0.100	6.620	0.662	1	0.007								
Dicor 502 - 10 oz	0.800	9.750	7.800	0	0.000								
Dicor 502 -5 Gallon	0.100	9.750	0.975	0	0.000								
Fast Dry Acrylic Laquer Thinner	0.050	6.690	0.335	87.5	0.293	7	0.023			55	0.184		
Fiberglass Resin (58020)	0.120	9.590	1.151	35	0.403								
Fiberglass Resin GL & Hardener 40cc	0.020	9.950	0.199	0	0.000								
Finishing Compound 3M (# 5995)	0.010	10.800	0.108	12	0.013								
Gallon Cleaner (Oatey) .5 GAL	0.010	6.747	0.067	1	0.001								
Mineral Spirits	0.280	6.300	1.764	1	0.018								
PERFECT IT III RUBBING COMPOUND QT 3M (5933)	0.010	8.790	0.088	7	0.006								
Polyester Glazing Putty .5GL	0.010	14.900	0.149	0.05	0.000								
Red Cream Hardener	0.000	11.090	0.000	0.009	0.000								
Sheet floor adhesive 4 (GAL) Armstrong S-235	0.320	9.420	3.014	59.45	1.792								
Spray Away Glass Cleaner 19 oz (S50)	0.020	7.920	0.158	19	0.030								
Feather Rite GL (21330)	0.010	9.674	0.097	2	0.002								
Acetone 5GL (TCI Products)	0.100	6.580	0.658	0	0.000								
Red Devil Caulk (65)	0.020	11.640	0.233	0	0.000								
Henkel, 905BA, Water Based Adhesive	4.000	8.340	33.360	0	0.000								
FIBREGLASS, 156, LITE WEIGHT 3 BODY FILLER GL	0.010	10.400	0.104	14	0.015								
DC12381 HAPS Free Adhesive (royal Adhesive)	0.780	9.760	7.613	30	2.284								

* = aerosols; 65% Transfer Efficiency

Total Pounds VOC per Unit =	6.20												
	13,576	lbs VOC/yr											
Total Pounds HAPs per Unit =	1.80												
	3946	lbs HAP/yr											

Production Rate: 0.25 Units/hr
Max. Units per day (24 hr) = 6

Maximum RVs Produced
 2190 Units/yr

Actual Emissions			
VOC	1.55 lb/hr	x 8 hrs/ day	12.40 lb/day

Potential to Emit

VOC:	1.55 lb/hr	37.19 lb/day	6.79 ton/yr	PTE in tons VOC for maximum number of RVs produced
Styrene	0.13 lb/hr	3.18 lb/day	0.58 ton/yr	
Combined HAP	0.45 lb/hr	10.81 lb/day	1.97 ton/yr	PTE in tons combined HAP for maximum number of RVs produced

HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs
 Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
 Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
 Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
 Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
 Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
 Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) * (8760 hrs/yr) * (1 ton/2000 lbs)

**Emission Calculations
VOC & HAP Emissions**

Company Name: Forest River, Inc /Wolfpack Division
Address City IN Zip: 827 W Lake Street, Topeka, IN 46571
Permit Number: 039-25833-00673
Reviewer: Sandra Carr
Application Date: January 2, 2008

Material	Percent	lb Methanol	Percent	lb Styrene	Percent	lb MIK	Percent	lb Dimethyl	lb Vinyl Acetate	Percent Vinyl
	Methanol	Per unit	Styrene	Per unit	MIK	MIK	Dimethyl phthalate	Dimethyl phthalate	Vinyl Acetate Monomer	Vinyl Acetate Monomer
SUPER DUTY RUBBING COMPOUND QT 3M (05954)										
92 TAPE PRIMER ADHESIVE PROMOTER										
ABS Cement										
All in one Clear 10 clear Caulk										
All Purpose Construction Adhesive--Beats The Nail										
Boringsmith Tank Adhesive										
Buffing Compound 3M (6044)										
Clear Caulk 2350 (Geocel) 10oz										
CSA Pipe Dope Reactor Sealant										
Cyclo Max Clean (C-192)										
CYCLO Brake Cleaner C111										
CYCLO Silicone Spray C-33										
DAP Spray'N GO Gloss Blk Spry Paint (12oz)										
Denatured Alcohol	4.26	0.028			0.88	0.006				
Dicor 502 - 10 oz										
Dicor 502 -5 Gallon										
Fast Dry Acrylic Laquer Thinner	19	0.064								
Fiberglass Resin (58020)			40	0.460						
Fiberglass Resin GL & Hardener 40cc							50	0.100		
Finishing Compound 3M (# 5995)										
Gallon Cleaner (Oatey) .5 GAL										
Mineral Spirits										
PERFECT IT III RUBBING COMPOUND QT 3M (5933)										
Polyester Glazing Putty .5GL			20	0.030						
Red Cream Hardener										
Sheet floor adhesive 4 (GAL) Armstrong S-235										
Spray Away Glass Cleaner 19 oz (S50)										
Feather Rite GL (21330)			20	0.019						
Acetone 5GL (TCI Products)										
Red Devil Caulk (65)										
Henkel, 905BA, Water Based Adhesive									1.000	0.334
FIBREGLASS, 156, LITE WEIGHT 3 BODY FILLER GL			20	0.021						
DC12381 HAPS Free Adhesive (royal Adhesive)										
		Methanol		Styrene		MIK		Dimethyl Phthalate		Vinyl Acetate Monomer
		0.092 lb/unit		0.530 lb/unit		0.006 lb/unit		0.100 lb/unit		0.334 lb/unit
		0.100 ton/yr		0.581 ton/yr		0.006 ton/yr		0.109 ton/yr		0.365 ton/yr

Ma:

**Emission Calculations
Natural Gas Combustion
(MMBtu/hr < 100)
From Space Heaters (.765MMBtu/hr total)**

**Company Name: Forest River, Inc /Wolfpack Division
Address City IN Zip: 827 W Lake Street, Topeka, IN 46571
Permit Number: 039-25833-00673
Reviewer: Sandra Carr
Date: January 28, 2008**

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

0.765

6.701

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO ₂	**NO _x	VOC	CO
	7.6	7.6	0.6	100	5.5	84.0
Potential Emission in tons/yr	0.03	0.03	0.0020	0.34	0.02	0.28

*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

Appendix A: Emissions Calculations

MM BTU/HR <100

HAP Emissions from N.G. Combustion

Company Name: Forest River, Inc /Wolfpack Division
Address City IN Zip: 827 W Lake Street, Topeka, IN 46571
Permit Number: 039-25833-00673
Reviewer: Sandra Carr
Application Date: January 2, 2008

Heat Input Capacity
MMBtu/hr
0.765

Potential Throughput
MMCF/yr
6.701

HAPs - Organics					
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	7.04E-06	4.02E-06	2.51E-04	6.03E-03	1.14E-05

HAPs - Metals					
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	1.68E-06	3.69E-06	4.69E-06	1.27E-06	7.04E-06

Methodology is the same as page 1.

Combined HAP = 0.0063 tons/yr
Highest Individual HAP = 0.0060 tons/yr
(Hexane)

The five highest organic and metal HAPs emission factors are provided above.
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.

**Emission Calculations
Woodworking**

**Company Name: Forest River, Inc /Wolfpack Division
Address City IN Zip: 827 W Lake Street, Topeka, IN 46571
Permit Number: 039-25833-00673
Reviewer: Sandra Carr
Application Date: January 2, 2008**

Indoor Dust Collector (CD-01)

1. Woodworking Process Description:

PM Control Equipment: Indoor Dust Collector CD-01
Sawdust collected from filter: 20 lbs
Time period of collection: 8 hrs
Control efficiency - Cyclone: 98.00%

2. Amount collected (lb/hr): 2.50 lb/hr

3. Uncontrolled PM/PM10 Emission Rate:

= (Amount collected (lbs/hr)) / (control efficiency) = **2.55 lbs/hr**
= (Uncontrolled emissions (lbs/hr)) * 8760 hr/yr * (1/2000 lbs/ton) = **11.17 tons/yr**

4. Controlled PM/PM10 Emission Rate:

= (Uncontrolled emission rate (lbs/hr)) * (1 - control efficiency of the baghouse) = **0.051 lbs/hr**
= (Controlled emissions (lbs/hr)) * 8760 hr/yr * (1/2000 lbs/ton) = **0.22 tons/yr**

Outdoor Dust Collector (CD-02)

1. Woodworking Process Description:

PM Control Equipment: Outdoor Dust Collector CD-02
Sawdust collected from filter: 74 lbs
Time period of collection: 8 hrs
Control efficiency - Cyclone: 98.00%

2. Amount collected (lb/hr): 9.25 lb/hr

3. Uncontrolled PM/PM10 Emission Rate:

= (Amount collected (lbs/hr)) / (control efficiency) = **9.44 lbs/hr**
= (Uncontrolled emissions (lbs/hr)) * 8760 hr/yr * (1/2000 lbs/ton) = **41.34 tons/yr**

4. Controlled PM/PM10 Emission Rate:

= (Uncontrolled emission rate (lbs/hr)) * (1 - control efficiency of the baghouse) = **0.189 lbs/hr**
= (Controlled emissions (lbs/hr)) * 8760 hr/yr * (1/2000 lbs/ton) = **0.83 tons/yr**

grain loading (gr/dscf) = [total controlled (lb/hr) * 7000 gr/lb] / (acfm * # minutes tested)
Grain Loading = 0.0056 grains/dscf

Test Period = 60 minutes
Total Uncontrolled PM/PM10 Emission Rate = 11.99 lbs/hr
Total Controlled PM/PM10 Emission Rate = 0.240 lbs/hr
Air Flow Rate = 5,000 acfm
Air Flow During Testing Period = 300,000

Total Uncontrolled emissions =	52.52 tons/yr
Total Controlled emissions ** =	1.05 tons/yr

** The dust collectors, CD-01 and CD-02, are considered integral to the woodworking process.

Appendix A: Emission Calculations
Fugitive Dust Emissions - Paved Roads

Company Name: Forest River, Inc /Wolfpack Division
Address City IN Zip: 827 W Lake Street, Topeka, IN 46571
Permit Number: 039-25833-00673
Reviewer: Sandra Carr
Application Date: January 2, 2008

Paved Roads at Industrial Site

The following calculations determine the amount of emissions created by paved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (12/2003).

Vehicle Information (provided by source)

Type	Maximum number of vehicles	Number of one-way trips per day per vehicle	Maximum trips per day (trip/day)	Maximum Weight Loaded (tons/trip)	Total Weight driven per day (ton/day)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/day)	Maximum one-way miles (miles/yr)
Vehicle (entering plant) (one-way trip)	25.0	1.0	25.0	2.0	50.0	10000	0.010	0.3	91.3
Vehicle (leaving plant) (one-way trip)	25.0	1.0	25.0	2.0	50.0	10000	0.010	0.3	91.3
Total			50.0		100.0			0.5	182.5

Average Vehicle Weight Per Trip = $\frac{2.0}{0.01}$ tons/trip
Average Miles Per Trip = $\frac{0.01}{0.01}$ miles/trip

Unmitigated Emission Factor, $E_f = [k * (sL/2)^{0.65} * (W/3)^{1.5} - C]$ (Equation 1 from AP-42 13.2.1)

	PM	PM10	
where k =	0.082	0.016	lb/mi = particle size multiplier (AP-42 Table 13.2.1-1)
W =	2.0	2.0	tons = average vehicle weight (provided by source)
C =	0.00047	0.00047	lb/mi = emission factor for vehicle exhaust, brake wear, and tire wear (AP-42 Table 13.2.1-2)
sL =	0.6	0.6	g/m ² = Ubitiguous Baseline Silt Loading Values of paved roads (Table 13.2.1-3 for summer month)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, $E_{ext} = E * [1 - (p/4N)]$

Mitigated Emission Factor, $E_{ext} = E_f * [1 - (p/4N)]$

where p = $\frac{147.7}{365}$ days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
N = 365 days per year

	PM	PM10	
Unmitigated Emission Factor, E_f =	0.02	0.00	lb/mile
Mitigated Emission Factor, E_{ext} =	0.02	0.00	lb/mile
Dust Control Efficiency =	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)
Vehicle (entering plant) (one-way trip)	0.00091	0.00016	0.00082	0.00014	0.00041	0.00007
Vehicle (leaving plant) (one-way trip)	0.00091	0.00016	0.00082	0.00014	0.00041	0.00007
	0.00182	0.00032	0.00164	0.00029	0.00082	0.00014

Methodology

Total Weight driven per day (ton/day) = [Maximum Weight Loaded (tons/trip)] * [Maximum trips per day (trip/day)]

Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]

Maximum one-way miles (miles/day) = [Maximum trips per year (trip/day)] * [Maximum one-way distance (mi/trip)]

Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per day (ton/day)] / SUM[Maximum trips per day (trip/day)]

Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/day)] / SUM[Maximum trips per year (trip/day)]

Unmitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Unmitigated Emission Factor (lb/mile)) * (ton/2000 lbs)

Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Mitigated Emission Factor (lb/mile)) * (ton/2000 lbs)

Controlled PTE (tons/yr) = (Mitigated PTE (tons/yr)) * (1 - Dust Control Efficiency)

Abbreviations

PM = Particulate Matter

PM10 = Particulate Matter (<10 um)

PTE = Potential to Emit