

CONSTRUCTION PERMIT OFFICE OF AIR MANAGEMENT

**Cargo Mate / Continental Cargo Division of Forest River, Inc.
29618 County Road 12 West
Elkhart, Indiana 46527**

This permit is issued to the above mentioned company (herein known as the Permittee) under the provisions of 326 IAC 2-1 and 40 CFR 52.780, with conditions listed on the attached pages.

Construction Permit No.: CP-039-10231-00510	
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 and A.2 are 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

The Permittee owns and operates a stationary cargo trailers manufacturing plant.

Responsible Official: Mr. William G. Conway Jr.
Source Address: 29618 County Road 12 West, Elkhart, Indiana 46527
Mailing Address: P. O. Box 124, Goshen, Indiana 46527
SIC Code: 3392
County Location: Elkhart
County Status: Attainment for all criteria pollutants
Source Status: Minor Source, under PSD Rules;

A.2 Emission Units and Pollution Control Equipment Summary

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

- (a) Two (2) high volume low pressure (HVLP) guns, various aerosol cans and manual tube extrusion guns for the coating metal surface of cargo trailers in the assembly area with a maximum capacity of manufacturing nine and five tenth (9.50) recreational vehicles per hour, with no control for overspray.
- (b) One (1) woodworking operation consisting of five (5) table saws, and five (5) radial arm saws, using a plywood with a maximum capacity of 2,280 pounds per hour (lb/hr), and exhausting inside the building.
- (c) One (1) metal inert gas (MIG) welding operation consisting of seven (7) welding stations rated at a maximum capacity of consuming 0.18 pound RE 70S electrode per hour.
- (d) Nine (9) natural gas fired space heaters with a total rated maximum capacity of 8.50 million British thermal units per hour (mmBtu/hr), exhausting at their separate stacks.

SECTION B

GENERAL CONDITIONS

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1 AND 40 CFR 52.780, WITH CONDITIONS LISTED BELOW.

Construction Conditions [326 IAC 2-1-3.2]

B.1 General Construction Conditions

- (a) The data and information supplied with the application shall be considered part of this permit. Prior to any proposed change in construction which may affect allowable emissions, the change must be approved by the Office of Air Management (OAM).
- (b) 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 Effective Date of the Permit [IC13-15-5-3]

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

B.3 Revocation of Permits [326 IAC 2-1-9(b)]

Pursuant to 326 IAC 2-1-9(b)(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.4 Permit Review Rules [326 IAC 2]

Notwithstanding Construction Condition (B.5), 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.5 First Time Operation Permit [326 IAC 2-1-4]

This document shall also become a first-time operation permit pursuant to 326 IAC 2-1-4 (Operating Permits) 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 facilities were constructed as proposed in the application. The facilities covered in the 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) 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 2-7-19 (Fees).

Operation Conditions

B.6 General Operation Conditions

- (a) The data and information supplied in the application shall be considered part of this permit. Prior to any change in the operation which may result in an increase in allowable emissions exceeding those specified in 326 IAC 2-1-1 (Construction and Operating Permit Requirements), the change must be approved by the Office of Air Management (OAM).
- (b) The Permittee shall 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 (IC13-17) and the rules promulgated thereunder.

B.7. Preventive Maintenance Plan [326 IAC 1-6-3]

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 Affidavit of Construction postmarked, including the following information on each facility:

- (a) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices.
- (b) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions.
- (c) Identification of the replacement parts which will be maintained in inventory for quick replacement.

The preventive maintenance plan shall be submitted to IDEM, OAM upon request and shall be subject to review and approval.

B.8 Transfer of Permit [326 IAC 2-1-6]

Pursuant to 326 IAC 2-1-6 (Transfer of Permits):

- (a) In the event that ownership of a source or facility is changed, the Permittee shall notify OAM, Permit Branch, within thirty (30) days of the change. Notification shall include the date or proposed date of said change.
- (b) The written notification shall be sufficient to transfer the permit from the current owner to the new owner.
- (c) The OAM shall reserve the right to issue a new permit.

B.9 Permit Revocation [326 IAC 2-1-9]

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

- (a) Violation of any conditions of this permit.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.

- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of 326 IAC 2-1 (Permit Review Rules).

B.10 Availability of Permit [326 IAC 2-1-3(l)]

Pursuant to 326 IAC 2-1-3(l), the Permittee shall maintain the applicable permit on the premises of the source and shall make this permit available for inspection by the IDEM, or other public official having jurisdiction.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards

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

- (a) The total source potential to emit of volatile organic compounds (VOC), particulate matter (PM) are less than 250 tons per year. Therefore the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 will not apply.
- (b) Any change or modification which may increase potential to emit to 250 tons per year, from the equipment covered in this permit, shall require a PSD permit pursuant to 326 IAC 2-2 and CFR 52.21, before such change may occur.

C.2 Notice of Malfunction [326 IAC 1-6-2]

- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM) or appointed representative upon request.
- (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAM, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.
- (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).
- (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

C.3 Opacity [326 IAC 5-1]

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

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

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

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

Testing Requirements

C.5 Performance Testing [326 IAC 3-6]

- (a) All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing 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 "responsible official" as defined by 326 IAC 2-7-1(34).

Compliance Monitoring Requirements

C.6 Compliance Monitoring [326 IAC 2-1-3]

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 after Affidavit of Construction postmarked. If due to circumstances beyond its control, this schedule cannot be met, the Permittee may extend 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 "responsible official" as defined by 326 IAC 2-7-1(34).

C.7 Monitoring Methods [326 IAC 3]

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.

Corrective Actions and Response Steps

C.8 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-1-3]

- (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 facility 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 facility.

The documents submitted pursuant to this condition do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Record Keeping and Reporting Requirements

C.9 Emission Statement [326 IAC 2-6]

- (a) The Permittee shall submit an annual emission statement certified pursuant to the requirements of 326 IAC 2-6, that must be received by April 15 of each year and must comply with the minimum requirements specified in 326 IAC 2-6-4. The annual emission statement shall meet the following requirements:
 - (1) Indicate actual emissions of criteria pollutants from the source, in compliance with 326 IAC 2-6 (Emission Reporting);
 - (2) Indicate actual emissions of other regulated pollutants from the source, for purposes of Part 70 fee assessment.
- (b) The annual emission statement covers the twelve (12) consecutive month time period starting December 1 and ending November 30. The annual emission statement must be submitted to:
- (c) The annual emission statement required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the

private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAM, on or before the date it is due.

C.10 Monitoring Data Availability [326 IAC 2-1-3]

- (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.11 General Record Keeping Requirements [326 IAC 2-1-3]

- (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. 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.12 General Reporting Requirements [326 IAC 2-1-3]

- (a) The report required by conditions in Section D of 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
- (b) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAM, on or before the date it is due.
- (c) Unless otherwise specified in this permit, any quarterly report shall be submitted within thirty (30) days of the end of the reporting period.
- (d) The first report shall cover the period commencing on the date after Affidavit of Construction postmarked and ending on the last day of the reporting period.

The documents submitted pursuant to this condition do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

SECTION D.1 FACILITY OPERATION CONDITIONS

- (a) Two (2) high volume low pressure (HVLP) guns, various aerosol cans and manual tube extrusion guns for the coating metal surface of cargo trailers in the assembly area with a maximum capacity of manufacturing nine and five tenth (9.50) recreational vehicles per hour, with no control for overspray.
- (b) One (1) woodworking operation consisting of five (5) table saws, and five (5) radial arm saws, using a plywood with a maximum capacity of 2,280 pounds per hour (lb/hr), and exhausting inside the building.
- (c) One (1) metal inert gas (MIG) welding operation consisting of seven (7) welding stations rated at a maximum capacity of consuming 0.18 pound RE 70S electrode per hour.
- (d) Nine (9) natural gas fired space heaters with a total rated maximum capacity of 8.50 million British thermal units per hour (mmBtu/hr), exhausting at their separate stacks.

Emission Limitations and Standards

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

- (a) That pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), the volatile organic compound (VOC) content of coatings applied to the metal surface of cargo trailers shall be limited to:

Coatings	Limit (pounds of VOC/gallon of coating less water delivered to the applicator)
Air Dried Coat	3.50

- (b) That pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), solvent sprayed from the application equipment during clean up or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.

D.1.2 Volatile Organic Compounds (VOC) [326 IAC 8-2-12]

That pursuant to 326 IAC 8-2-12 (Wood Furniture and Cabinet coating),

- (a) The surface coatings applied to wood furniture and/or wood components shall utilize one or more of the following application methods:

- | | |
|----------------------------------|--|
| Airless Spray Application | Air-Assisted Airless Spray Application |
| Electrostatic Spray Application | Electrostatic Bell or Disc Application |
| Heated Airless Spray Application | Roller Coating |
| Brush or Wipe Application | Dip-and-Drain Application |
| High Volume Low Pressure HVLP | Aerosol Spray Cans |

- (b) High volume low pressure spray is an acceptable alternative application of air-assisted airless spray. High volume low pressure (HVLP) spray means technology used to apply coating to a substrate by means of coating application equipment which operates between one-tenth (0.1) and ten (10) pounds per square inch gauge (psig) air pressure measured dynamically at the center of the air cap and at the air horns of the spray system.

D.1.3 Particulate Matter (PM) [326 IAC 6-3-2(c)]

- (a) The PM from the wood working and welding operation shall not exceed 4.15 and 14.20 pounds per hour, respectively, as E in the following formula:
- (b) The PM from the surface coating operation 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:

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

Compliance Determination Requirements

D.1.4 Testing Requirements [326 IAC 2-1-3]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the PM limit specified in Condition D.1.3 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.1.5 Volatile Organic Compounds (VOC) [326 IAC 8-1-4]

Compliance with the VOC content and usage limitations contained in Conditions D.1.1 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) using formulation data supplied by the coating manufacturer. IDEM, OAM, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

Compliance Monitoring Requirements

D.1.6 Visible Emissions Notations

- (a) Daily visible emission notations of the facility shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

Record Keeping and Reporting Requirements

D.1.7 Record Keeping Requirements

- (a) To document compliance with Conditions D.1.1 and D.1.2, the Permittee shall maintain records in accordance with (1) through (6) below. Records maintained for (1) through (6) shall be taken daily and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits.
 - (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. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;
 - (2) A log of the dates of use;
 - (3) The volume weighted VOC content of the coatings used for each day;
 - (4) The cleanup solvent usage for each day;
 - (5) The total VOC usage for each day; and
 - (6) The weight of VOCs emitted for each compliance period.
- (b) The Permittee shall maintain records of the materials used that contain any HAPs. The records shall contain a minimum of the following:
 - (1) The weight of HAP containing material used, including purchase orders and invoices necessary to verify the type and amount used; and
 - (2) The HAP content (weight percent) of each material used; and
 - (3) Identification of the facility or facilities with the usage of each HAP.

The record keeping under this condition will show that 326 IAC 2-8 (FESOP Permit) and 326 IAC 2-7 (Part 70 Operating Permit) does not apply.
- (c) To document compliance with Condition D.1.6, the Permittee shall maintain a log of visible emissions notations.
- (d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

MALFUNCTION REPORT

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

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

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE: IT HAS POTENTIAL TO EMIT 25 LBS/HR PARTICULATES ?____, 100 LBS/HR VOC ?____, 100 LBS/HR SULFUR DIOXIDE ?____ OR 2000 LBS/HR OF ANY OTHER POLLUTANT ?____ EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION _____.

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

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

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

COMPANY: Cargo Mate / Continental Cargo Division of Forest River, Inc. PHONE NO. (219) 533 - 5934

LOCATION: (CITY AND COUNTY): 29618 County Road 12 West, Elkhart, Indiana 46527
PERMIT NO. 039-10231 AFS PLANT ID: 039-00510 AFS POINT ID: _____ INSP: Doug Elliott
CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND REASON: _____

DATE/TIME MALFUNCTION STARTED: ____/____/ 19____ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: _____

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE ____/____/ 19____ _____ AM/PM

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

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: _____

MEASURES TAKEN TO MINIMIZE EMISSIONS: _____

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

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

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

MALFUNCTION RECORDED BY: _____ DATE: _____ TIME: _____

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

326 IAC 1-6-1 Applicability of rule

Sec. 1. The requirements of this rule (326 IAC 1-6) shall apply to the owner or operator of any facility which has the potential to emit twenty-five (25) pounds per hour of particulates, one hundred (100) pounds per hour of volatile organic compounds or SO₂, or two thousand (2,000) pounds per hour of any other pollutant; or to the owner or operator of any facility with emission control equipment which suffers a malfunction that causes emissions in excess of the applicable limitation.

326 IAC 1-2-39 “Malfunction” definition

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. (Air Pollution Control Board; 326 IAC 1-2-39; filed Mar 10, 1988, 1:20 p.m. : 11 IR 2373)

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

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

Indiana Department of Environmental Management Office of Air Management

Technical Support Document (TSD) for New Construction and Operation

Source Background and Description

Source Name: Cargo Mate / Continental Cargo Division of Forest River, Inc.
 Source Location: 29618 County Road 12 West, Elkhart, Indiana 46527
 County: Elkhart
 Construction Permit No.: CP-039-10231-00510
 SIC Code: 3392
 Permit Reviewer: Manoj P. Patel

The Office of Air Management (OAM) has reviewed an application from Cargo Mate / Continental Cargo Division of Forest River, Inc. relating to the construction and operation of cargo trailer manufacturing operation, consisting of the following equipment:

- (a) Two (2) high volume low pressure (HVLP) guns, various aerosol cans and manual tube extrusion guns for the coating metal surface of cargo trailers in the assembly area with a maximum capacity of manufacturing nine and five tenth (9.50) recreational vehicles per hour, with no control for overspray.
- (b) One (1) woodworking operation consisting of five (5) table saws, and five (5) radial arm saws, using a plywood with a maximum capacity of 2,280 pounds per hour (lb/hr), and exhausting inside the building.
- (c) One (1) metal inert gas (MIG) welding operation consisting of seven (7) welding stations rated at a maximum capacity of consuming 0.18 pound RE 70S electrode per hour.
- (d) Nine (9) natural gas fired space heaters with a total rated maximum capacity of 8.50 million British thermal units per hour (mmBtu/hr), exhausting at their separate stacks.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
A-1 thru A-8	Space Heaters	27	0.50	950	300
A-9		27	0.33	525	300
A-10		27	0.33	140	300
B-1 thru B-6		29	0.50	800	300
C-1 and C-2		22	0.50	950	300
C-3		22	0.66	1,900	300
D-1 thru D-14		31	0.50	800	300
E-1 and E-2		25	0.50	800	300
G-1		18	1.0	2,100	300
G-2		18	0.50	800	300

H-1 and H-2		20	0.50	800	300
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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.

An application for the purposes of this review was received on October 8, 1998, with additional information received on November 5 & 6, 1998.

Emissions Calculations

- (a) See Appendix A through E (Emissions Calculation Spreadsheets) for detailed calculations.

Total Potential and Allowable Emissions

Indiana Permit Allowable Emissions Definition (after compliance with applicable rules, based on 8,760 hours of operation per year at rated capacity):

Pollutant	Allowable Emissions (tons/year)	Potential Emissions (tons/year)
Particulate Matter (PM)	--	36.70
Particulate Matter (PM10)	25.80	25.80
Sulfur Dioxide (SO ₂)	0.0	0.0
Volatile Organic Compounds (VOC)	39.40	39.40
Carbon Monoxide (CO)	1.30	1.30
Nitrogen Oxides (NO _x)	5.10	5.10
Single Hazardous Air Pollutant (HAP)	6.30	6.30
Combination of HAPs	22.10	22.10

- (a) Allowable emissions are determined from the applicability of rule 326 IAC 6-3. See Appendix B spreadsheets for detailed calculations.
- (b) The potential VOC emissions before control are less than the allowable emissions, therefore, the potential emissions before control are used for the permitting determination.
- (c) Allowable emissions (as defined in the Indiana Rule) of volatile organic compounds (VOC) are greater than 25 tons per year. Therefore, pursuant to 326 IAC 2-1, Sections 1 and 3, a construction permit is required.

County Attainment Status

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

Pollutant	Emissions (ton/yr)
PM	36.70
PM10	25.80
SO ₂	0.0
VOC	39.40
CO	1.30
NO _x	5.10
Single HAP	6.30
Combination HAPs	22.10

- (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) There are no New Source Performance Standards (326 IAC 12) applicable to this facility.

- (b) 40 CFR Part 63, Subpart JJ, National Emission Standards for Wood Furniture Manufacturing Operations

This woodworking operation is not covered by 40 CFR Part 63, Subpart JJ (National Emission Standards for Wood Furniture Manufacturing Operations), because this source is not a major source as defined in 40 CFR Part 63.2, subpart A, do not engage in manufacturing of wood furniture or wood furniture components, and does not meet the definition for an incidental wood furniture manufacturer. Pursuant to 326 IAC 14 and 40 CFR Part 63.801, wood furniture defined as any product made of wood, a wood product such as ratten or wicker, or an engineered wood product such as particleboard that is manufactured under any of the following standard industrial classification codes: 2334, 2511, 2512, 2517, 2519, 2521, 2541, 2599, or 5712.

State Rule Applicability

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. 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.

326 IAC 6-3 Particulate Emissions Limitation

This source is subject to this rule which mandates an allowable particulate matter (PM) emissions using the following equation:

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

Where: E = PM allowable emissions in pound per hour
P = Process weight rate in ton / hr

- (a) Woodworking Saws: (P = 1.02 ton/hr)

$$\begin{aligned} E &= 4.10 P^{0.67} \\ &= 4.10 (1.02)^{0.67} \\ &= 4.15 \text{ lb/hr} \\ &= 18.20 \text{ ton/year} \end{aligned}$$

Based on this calculations, the potential emissions are less than the allowable emissions, therefore, this cabinet shop saws complies with the rule.

- (b) Welding Operation: (P = 6.37 tons/year)

$$\begin{aligned} E &= 4.10 P^{0.67} \\ &= 4.10 (6.37)^{0.67} \\ &= 14.20 \text{ lb/hr} \\ &= 62.10 \text{ ton/yr} \end{aligned}$$

Based on this calculations, the potential emissions are less than the allowable emissions, therefore, this welding operation complies with the rule.

326 IAC 5-1-2 Opacity Limitation

That pursuant to 326 IAC 5-1-2 (Visible Emission Limitations) except as provided in 326 IAC 5-1-3 (Temporary Exemptions), the visible emissions shall meet the following:

- (a) visible emissions shall not exceed an average of 40% opacity in 24 consecutive readings.
- (b) visible emissions shall not exceed 60% opacity for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period.

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

Surface coating emission limitations as specified under 326 IAC 8-2-9 are applicable to facilities commenced construction in any county and which have actual emissions of greater than 15 pounds of VOC per day before add-on control.

- (a) The surface coating area is subject to the requirements of 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations) because it surface coats on the metal surface. Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), the volatile organic compound (VOC) content of coatings applied to metal surfaces on the containers shall be limited to:

Coatings	Limit (pounds of VOC/gallon of coating less water delivered to the applicator)
Air Dried Coating	3.50

lb. VOC / gal less water = $3 \text{ coats} \left\{ \left[\frac{\text{density, lb./gal} * \text{wt. \% organic} * \text{gal of material}}{\text{gal/unit}} \right] / \left[\frac{1 - \% \text{ vol water} * \text{density of coat (lb./gal)}}{\text{density of water (lb./gal)}} \right] \right\}$

[3 Coats, gal/unit]

= 1.078/0.323

= 3.34 lb./gal less water < 3.50 lb./gal , therefore the facility is in compliance. (See Appendix D of the TSD for Detailed calculation).

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

326 IAC 8-2-12 (Surface Coating Emission Limitations: Wood Furniture and Cabinet Coating)

The assembly area is subject to 326 IAC 8-2-12 (Surface Coating Emission Limitations: Wood Furniture and Cabinet Coating), because the facility sprays on a solid wood, wood composition or simulated wood material. That pursuant to 326 IAC 8-2-12 (Wood Furniture and Cabinet coating),

- (a) The surface coatings applied to wood furniture and/or wood components shall utilize one or more of the following application methods:

Airless Spray Application	Air-Assisted Airless Spray Application
Electrostatic Spray Application	Electrostatic Bell or Disc Application
Heated Airless Spray Application	Roller Coating
Brush or Wipe Application	Dip-and-Drain Application
High Volume Low Pressure HVLP	Aerosol Spray Cans

- (b) High volume low pressure spray is an acceptable alternative application of air-assisted airless spray. High volume low pressure (HVLP) spray means technology used to apply coating to a substrate by means of coating application equipment which operates between one-tenth (0.1) and ten (10) pounds per square inch gauge (psig) air pressure measured dynamically at the center of the air cap and at the air horns of the spray system.

326 IAC 2-1-3.4 (New Source Toxics Control Rule)

The surface coating operation is not subject to 326 IAC 2-1-3.4 (New Source Toxics Control Rule), because they do not emit or have potential to emit (i.e. after control) ten (10) tons per year or more of any hazardous air pollutants or twenty-five (25) tons of any combination of hazardous air pollutants which are listed in section 112(b) of the Clean Air Act.

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 188 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 for detailed air toxic calculations.

Conclusion

The construction of this cargo trailers manufacturing operation will be subject to the conditions of the attached proposed **Construction Permit No. CP-039-10231-00510**.

Indiana Department of Environmental Management Office of Air Management

Addendum to the Technical Support Document for New Construction and Operation

Source Name: Cargo Mate / Continental Cargo Division of Forest River, Inc.
 Source Location: 29618 County Road 12 West, Elkhart, Indiana 46527
 County: Elkhart
 Construction Permit No.: CP-039-10231-00510
 SIC Code: 3392
 Permit Reviewer: Manoj P. Patel

On December 11, 1998, the Office of Air Management (OAM) had a notice published in the Elkhart Truth, Elkhart, Indiana, stating that Cargo Mate/Continental Cargo Division had applied for a construction permit to construct and operate cargo trailer manufacturing operation. The notice also stated that OAM proposed to issue a permit for this installation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

Upon further review, the Office of Air Management (OAM) has made the following changes into the final permit as follows:

- (1) Condition D.1.1(a) has revised to read as follows (delete language in ~~strikeout~~, add language in **bold**):

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

- (a) That pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), the volatile organic compound (VOC) content of coatings applied to ~~(? description of products coated)~~ **the metal surface of cargo trailers** shall be limited to:

Coatings	Limit (pounds of VOC/gallon of coating less water delivered to the applicator)
Air Dried Coat	3.50

- (b) That pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), solvent sprayed from the application equipment during clean up or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.
- (1) A new subsection is added to reflect the record keeping requirements of the hazardous air pollutants (HAP). Therefore, the requirement of 326 IAC 2-8 (FESOP Permit) and 326 IAC 2-7 (Part 70 Operating Permit) will not apply. Condition D.1.7 (Record Keeping Requirements) has been revised as follows (delete language in ~~strikeout~~, add language in **bold**):

D.1.7 Record Keeping Requirements

- (a) To document compliance with Conditions D.1.1 and D.1.2, the Permittee shall maintain records in accordance with (1) through (6) below. Records maintained for (1) through (6) shall be taken daily and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits.
- (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. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;
 - (2) A log of the dates of use;
 - (3) The volume weighted VOC content of the coatings used for each day;
 - (4) The cleanup solvent usage for each day;
 - (5) The total VOC usage for each day; and
 - (6) The weight of VOCs emitted for each compliance period.
- (b) The Permittee shall maintain records of the materials used that contain any HAPs. The records shall contain a minimum of the following:**
- (1) The weight of HAP containing material used, including purchase orders and invoices necessary to verify the type and amount used; and**
 - (2) The HAP content (weight percent) of each material used; and**
 - (3) Identification of the facility or facilities with the usage of each HAP.**

The record keeping under this condition will show that 326 IAC 2-8 (FESOP Permit) and 326 IAC 2-7 (Part 70 Operating Permit) does not apply.

- ~~(b)~~ (c) To document compliance with Condition D.1.6, the Permittee shall maintain a log of visible emissions notations.
- ~~(c)~~ (d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.
- (2) The last sentence of Condition C.3, has been deleted and the condition has been revised to reflect current rule language. The condition has been changed to:

C.3 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (~~Visible Emissions~~ **Opacity** Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), ~~visible emissions opacity~~ **opacity** shall meet the following, unless otherwise stated in this permit:

- (a) ~~Visible emissions Opacity~~ **Opacity** shall not exceed an average of forty percent (40%) ~~opacity in twenty-four (24) consecutive readings, any one (1) six (6) minute averaging period~~ **any one (1) six (6) minute averaging period** as determined in 326 IAC 5-1-4.

- (b) ~~Visible emissions~~ **Opacity** shall not exceed sixty percent (60%) ~~opacity~~ 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.

**Appendix A: Emission Calculations
From Welding Operations
SCC: 30905254**

Appendix D of TSD

Company Name: Cargo / Continental Cargo Division of Forest River, Inc.
Address City IN Zip: 29618 County Road 12 West, Elkhart, Indiana 46527
CP: 039-10231
Plt ID: 039-00510
Reviewer: Manoj Patel
Date: 11-05-1998

Type of Welding	No. of Units	Electrode Type	Maximum Electrode Consumption per Unit (lb/hr)	Emission Factors					Potential Emissions				
				lbs pollutant / 1000 lbs electrode consumed					Tons / year				
				PM	Chromium	Cobalt	Managane	Nickel	PM	Chromium	Cobalt	Managane	Nickel
MIG	7	ER70S	4.465	5.2	0.01	0.01	3.18	0.01	0.712	0.001	0.001	0.435	0.001
Total Potential Emissions (Tons/year):									0.712	0.001	0.001	0.435	0.001

Methodology:

Emissions (tons/year): Number of units * Maximum Electrode Consumption per unit * E. F. (lbs pollutant / 1000 lbs electrode)* 8760 hrs/year * (1 ton/2000 lb)

Emission Factors for welding operations are from AP-42(5th edition), section 12.19, Table 12.19-1 and 12.19-2.

Electrodes are mutually exclusive.

**Appendix B: Emission Calculations
From Woodworking Operations**

Company Name Cargo / Continental Cargo Division of Forest River, Inc.

Address: 29618 County Road 12 West, Elkhart, Indiana 46527

CP: 039-10231

Plt ID: 039-00510

Reviewer: Manoj Patel

Date: 11-05-1998

Sawdust % 2.50%

PM% 6.00%

PM10% 1.10%

Process	Max. Capacity lbs./trailer	No. of Unit Trailers/hr	Emission Factor		Emission Rate (lbs./hr)		Potential Emissions (t/y)	
			PM	PM10	PM	PM10	PM	PM10
Woodworking	240	8.5	0.36	0.07	3.06	0.56	13.40	2.46

Methodology:

Sawdust % in the plywood , PM% & PM10% in the saw dusts are provided by the applicant.

A Revised Max. Capacity used in Potential Emissions calculations.

Emission Factor for (PM & PM10) = Max. Capacity (lbs./trailer)* W % Saw dust in plywood * % PM or PM10 in saw dust

Emission Rate (lb./hour) = Emission Factor (lb./trailer) * (trailers/hour)

Potential Emissions (tons/year) = Emission Rate (lbs./hour) * 4.38

$$\text{Allowable Emissions (E)} = 4.10 (P)^{0.67}$$

Where P = Process Weight Rate in tons per year

$$P = 2040 \text{ lbs./hr} \qquad \qquad \qquad 1.02 \text{ tons/hour}$$

$$E = 4.15 \text{ pounds/hour}$$

$$\text{Allowable PM Emissions} = \mathbf{18.20 \text{ tons/year}}$$

**Appendix C: Emissions Calculations
VOC and Particulate
From Surface Coating Operations**

Company Name: Cargo Mate / Continental Cargo Division of Forest River, Inc.
Address City IN Zip: 29618 County Road 12 West, Elkhart, Indiana 46527
CP: 039-10231
Plt ID: 039-00510
Reviewer: Manoj P. Patel
Date: 11-02-1998

Water Density (lb./gal): **8.33**

Material	Density (Lb/Gal)	Weight % Volatile (H2O& Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Vol (solids)	Gal of Mat (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential ton/yr	lb VOC /gal solids	Transfer Efficiency	Volume Weighted Average to Comply With 326 IAC 8-2-9
N6913 Black Primer	10.7	47.42%	14.7%	32.7%	13.5%	52.58%	0.025	9.50	4.04	3.50	0.83	19.94	3.64	2.93	6.65	50%	0.0787
Brake Cleaner	10.8	99.00%	99.0%	0.0%	99.0%	1.00%	0.003	9.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	75%	0.0000
C35 Undercoating	10.1	46.00%	0.0%	46.0%	0.0%	56.00%	0.019	9.50	4.65	4.65	0.84	20.13	3.67	1.08	8.30	75%	0.0728
Cyclo Spray Adhesive	5.6	83.00%	5.0%	78.0%	5.0%	19.00%	0.006	9.50	4.60	4.37	0.25	5.98	1.09	0.06	22.99	75%	0.0410
General Purpose Silicone	8.3	50.00%	40.0%	10.0%	40.0%	50.00%	0.040	9.50	1.39	0.83	0.32	7.61	1.39	0.00	1.67	100%	0.0555
Contact Adhesive	8.6	73.30%	0.0%	73.3%	0.0%	27.00%	0.086	9.50	6.30	6.30	5.15	123.60	22.56	2.05	23.35	75%	0.5251
N-6051 Black Satin Enamel	9.5	44.34%	14.4%	29.9%	13.0%	56.00%	0.150	9.50	3.27	2.84	4.05	97.25	17.75	16.52	5.08	50%	0.4294
Para-Sil	8.8	0.00%	0.0%	0.0%	0.0%	100.00%	0.005	9.50	0.00	0.00	0.00	0.00	0.00	1.82	0.00	0%	0.0000
Alumiastic	13.4	4.50%	0.0%	4.5%	0.0%	95.00%	0.005	9.50	0.60	0.60	0.03	0.69	0.13	0.00	0.64	100%	0.0019
Plast-T-Cote Sealant	8.7	5.00%	5.0%	0.0%	5.0%	95.00%	0.005	9.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100%	0.0000
AllPro Ult Aluminium	6.7	87.90%	30.0%	57.9%	30.0%	15.00%	0.008	9.50	5.52	3.86	0.29	7.05	1.29	0.07	25.75	75%	0.0551
AllPro Ult OSHA Black	6.7	87.90%	30.0%	57.9%	30.0%	15.00%	0.017	9.50	5.52	3.86	0.62	14.97	2.73	0.14	25.75	75%	0.1171
							0.369										1.377

State Potential Emissions

Add worst case coating to all solvents

12.38

297.21

54.24

24.67

lb. VOC/gal less Water:

3.73

METHODOLOGY

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)

Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)

Total = Worst Coating + Sum of all solvents used

**Appendix C: Emissions Calculations
VOC and Particulate
From Surface Coating Operations**

Company Name: Cargo Mate / Continental Cargo Division of Forest River, Inc.
Address City IN Zip: 29618 County Road 12 West, Elkhart, Indiana 46527
CP: 039-10231
Plt ID: 039-00510
Reviewer: Manoj P. Patel
Date: 11-02-1998

Water Density (lb./gal): **8.33**

Material	Density (Lb/Gal)	Weight % Volatile (H2O& Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Vol (solids)	Gal of Mat (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential ton/yr	lb VOC /gal solids	Transfer Efficiency	Volume Weighted Average to Comply With 326 IAC 8-2-9
N6913 Black Primer	10.7	32.64%	0.0%	32.6%	0.0%	52.58%	0.025	8.50	3.49	3.49	0.74	17.81	3.25	3.35	6.64	50%	0.0680
C35 Undercoating	10.1	46.00%	0.0%	46.0%	0.0%	56.00%	0.019	8.50	4.65	4.65	0.75	18.01	3.29	0.96	8.30	75%	0.0728
Cyclo Spray Adhesive	5.6	83.00%	5.0%	78.0%	5.0%	19.00%	0.006	8.50	4.60	4.37	0.22	5.35	0.98	0.05	22.99	75%	0.0410
General Purpose Silicone	8.3	50.00%	40.0%	10.0%	40.0%	50.00%	0.040	8.50	1.39	0.83	0.28	6.81	1.24	0.00	1.67	100%	0.0555
Contact Adhesive	8.6	73.30%	0.0%	73.3%	0.0%	27.00%	0.043	8.50	6.30	6.30	2.30	55.30	10.09	0.92	23.35	75%	0.2626
N-6051 Black Satin Enamel	9.5	44.34%	14.4%	29.9%	13.0%	56.00%	0.150	8.50	3.27	2.84	3.63	87.01	15.88	14.78	5.08	50%	0.4294
Para-Sil	8.8	0.00%	0.0%	0.0%	0.0%	100.00%	0.005	8.50	0.00	0.00	0.00	0.00	0.00	1.63	0.00	0%	0.0000
Alumiastic	13.4	4.50%	0.0%	4.5%	0.0%	95.00%	0.005	8.50	0.60	0.60	0.03	0.62	0.11	0.00	0.64	100%	0.0019
Plast-T-Cote Sealant	8.7	5.00%	5.0%	0.0%	5.0%	95.00%	0.005	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100%	0.0000
AllPro Ult Aluminium	6.7	70.40%	0.0%	70.4%	0.0%	20.00%	0.008	8.50	4.70	4.70	0.32	7.67	1.40	0.15	23.49	75%	0.0469
AllPro Ult OSHA Black	6.7	70.40%	0.0%	70.4%	0.0%	20.00%	0.017	8.50	4.70	4.70	0.68	16.29	2.97	0.31	23.49	75%	0.0997

0.323

State Potential Emissions

Add worst case coating to all solvents

8.95

214.85

39.21

22.16

lb. VOC/gal less Water:

1.078

3.34

METHODOLOGY

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)

Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)

Total = Worst Coating + Sum of all solvents used

Appendix D: HAP Emission Calculations

Company Name: Cargo Mate / Continental Cargo Division of Forest River, Inc.
Address City IN Zip: 29618 County Road 12 West, Elkhart, Indiana 46527
CP: 039-10231
Plt ID: 039-00510
Reviewer: Manoj P. Patel
Date: 11-02-1998

Material	Density (Lb/Gal)	Gal of Mat (gal/unit)	Maximum (unit/hour)	Weight % Hexane	Weight % MIBK	Weight % Xylene	Weight % MEK	Weight % Toluene	Weight % 1,1,1 TCE	Hexane Emissions (ton/yr)	MIBK Emissions (ton/yr)	Xylene Emissions (ton/yr)	MEK Emissions (ton/yr)	Toluene Emissions (ton/yr)	1,1,1 TCE Emissions (ton/yr)
N6913 Black Primer	10.7	0.025	8.5	0.00%	0.00%	5.00%	1.00%	5.00%	0.00%	0.00	0.00	0.50	0.10	0.50	0.00
C35 Undercoating	10.1	0.019	8.5	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
Cyclo Spray Adhesive	5.6	0.006	8.5	35.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.44	0.00	0.00	0.00	0.00	0.00
General Purpose Silicone	8.3	0.040	8.5	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
Contact Adhesive	6.6	0.086	8.5	25.00%	0.00%	0.00%	0.00%	10.00%	0.00%	5.28	0.00	0.00	0.00	2.11	0.00
N-6051 Black Satin Enamel	9.5	0.150	8.5	0.00%	12.00%	3.00%	5.00%	0.00%	0.00%	0.00	6.37	1.59	2.66	0.00	0.00
Para-Sil	8.8	0.005	8.5	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
Alumiastic	13.4	0.005	8.5	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
Plast-T-Cote Sealant	8.7	0.005	8.5	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
AllPro Ult Aluminium	6.7	0.008	8.5	0.00%	0.00%	4.00%	0.00%	0.00%	30.00%	0.00	0.00	0.08	0.00	0.00	0.60
AllPro Ult OSHA Black	6.7	0.017	8.5	0.00%	0.00%	4.00%	0.00%	0.00%	30.00%	0.00	0.00	0.17	0.00	0.00	1.27

Total State Potential Emissions

5.72 6.37 2.34 2.76 2.61 1.86

METHODOLOGY

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

Single HAP: 6.37 Tons/year
 Total HAPs: 21.66 Tons/year

**Appendix E: Emission Calculations
Natural Gas Combustion Only
MM Btu/hr 0.3 - < 10**

Company Name: Cargo Mate / Continental Cargo Division of Forest River, Inc.
Address City IN Zip: 29618 County Road 12 West, Elkhart, Indiana 46527
CP: CP-039-10231-00510
Plt ID: 039-00510
Reviewer: Manoj P. Patel
Date: 11/09/1998

Heat Input Capacity*
MMBtu/hr

Potential Throughput
MMCF/yr

8.3

72.7

Pollutant

	PM	PM10	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	12.0	12.0	0.6	140.0	5.5	35.0
Potential Emission in tons/yr	0.4	0.4	0.0	5.1	0.2	1.3

* - Combined heat input capacity at the source.

Methodology

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Emission Factors for NOx: uncontrolled = 140, Low Nox Burner = 17, Flue gas recirculation = 36

Emission Factors for CO: uncontrolled = 35, Low NOx Burner = 27, Flue gas recirculation = ND

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 #1-03-006-03

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

Appendix D: HAP Emission Calculations

Company Name: Cargo Mate / Continental Cargo Division of Forest River, Inc.
Address City IN Zip: 29618 County Road 12 West, Elkhart, Indiana 46527
CP: 039-10231
Plt ID: 039-00510
Reviewer: Manoj P. Patel
Date: 11-02-1998

Material	Density (Lb/Gal)	Gal of Mat (gal/unit)	Maximum (unit/hour)	Weight % Hexane	Weight % MIBK	Weight % Xylene	Weight % MEK	Weight % Toluene	Weight % 1,1,1 TCE	Hexane Emissions (ton/yr)	MIBK Emissions (ton/yr)	Xylene Emissions (ton/yr)	MEK Emissions (ton/yr)	Toluene Emissions (ton/yr)	1,1,1 TCE Emissions (ton/yr)
N6913 Black Primer	10.7	0.025	9.5	0.00%	0.00%	5.00%	1.00%	5.00%	0.00%	0.00	0.00	0.56	0.11	0.56	0.00
Brake Cleaner	10.8	0.003	9.5	0.00%	0.00%	0.00%	0.00%	0.00%	99.00%	0.00	0.00	0.00	0.00	0.00	1.34
C35 Undercoating	10.1	0.019	9.5	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
Cyclo Spray Adhesive	5.6	0.006	9.5	35.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.49	0.00	0.00	0.00	0.00	0.00
General Purpose Silicone	8.3	0.040	9.5	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
Contact Adhesive	6.6	0.086	9.5	25.00%	0.00%	0.00%	0.00%	10.00%	0.00%	5.90	0.00	0.00	0.00	2.36	0.00
N-6051 Black Satin Enamel	9.5	0.150	9.5	0.00%	12.00%	3.00%	5.00%	0.00%	0.00%	0.00	7.12	1.78	2.97	0.00	0.00
Para-Sil	8.8	0.005	9.5	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
Alumiastic	13.4	0.005	9.5	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
Plast-T-Cote Sealant	8.7	0.005	9.5	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
AllPro Ult Aluminium	6.7	0.008	9.5	0.00%	0.00%	4.00%	0.00%	0.00%	30.00%	0.00	0.00	0.09	0.00	0.00	0.67
AllPro Ult OSHA Black	6.7	0.017	9.5	0.00%	0.00%	4.00%	0.00%	0.00%	30.00%	0.00	0.00	0.19	0.00	0.00	1.42
Total State Potential Emissions										6.39	7.12	2.61	3.08	2.92	3.42

METHODOLOGY

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

Single HAP: 7.12 Tons/year
 Total HAPs: 25.55 Tons/year