

Mr. Steve Ambrose
Four Seasons Housing, Inc.
11333 County Road Two
Middlebury, IN 46540

Re: 039-12196
**First Administrative Amendment to
FESOP 039-8569-00458**

Dear Mr. Ambrose:

Four Seasons Housing, Inc. was issued a Federally Enforceable State Operating Permit (FESOP) on February 3, 1999 for a stationary modular home manufacturing source. A letter requesting the addition of a dry wall housing manufacturing facility at the existing source was received on April 19, 2000. Additional information was received on June 8, 2000. Pursuant to the provisions of 326 IAC 2-8-10 the permit is hereby administratively amended as follows:

The potential to emit VOC from this modification is less than 10 tons per year, but greater than 15 pounds per day (see pages 1 through 3 of 3 of the attached calculations). Therefore, the emissions from this modification are less than that which require a minor or significant permit revision, but greater than insignificant activity emission levels. The new facility must be incorporated into the existing FESOP in order for the source to continue to limit source-wide VOC emissions to less than 100 tons per year. Therefore, an administrative amendment is required under 326 IAC 2-8-10 (a)(6), "Revises descriptive information where the revision will not trigger a new applicable requirement or violate a permit term." Since the dry wall coating process is not described by any section of 326 IAC 8-2, the potential to emit VOC is less than 25 tons per year, and there are no particulate emissions from process operations, there are no rules specifically applicable to the new facility. The following facility has been added to Section A.2 of the FESOP and the Facility Description box in Section D.1:

(c) One (1) dry wall housing coating facility equipped with roll coaters, maximum capacity: 136.12 pounds of coating per hour.

The facilities described in the three (3) Quarterly Report Forms have been revised as follows:

Facility: Adhesive and foam application **and dry wall coating**

This source is also installing a natural gas fired air makeup unit with a capacity of 3.90 million British thermal units per hour. This air makeup unit is an insignificant activity and there are no applicable rules. Therefore, the air makeup unit does not need to be included in the FESOP.

In addition, the source address is incorrect in the existing FESOP. The address has been revised on the cover page, and in Section A.1, the FESOP Certification Form, the Emergency/Deviation Occurrence Report, the three (3) Quarterly Report Forms, and the FESOP Quarterly Compliance Monitoring Report as follows:

11333 County Road 2, Middlebury, Indiana 46540

All other conditions of the permit shall remain unchanged and in effect. Please attach a copy of this amendment and the following revised permit pages to the front of the original permit.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact CarrieAnn Ortolani, c/o OAM, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, at 631-691-3395 or in Indiana at 1-800-451-6027 (ext 631-691-3395).

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Management

Attachments
CAO/MES

cc: File - Elkhart County
U.S. EPA, Region V
Northern Regional Office
Air Compliance Section Inspector - Paul Karkiewicz
Compliance Data Section - Mendy Jones
Administrative and Development - Janet Mobley
Technical Support and Modeling - Michele Boner

**FEDERALLY ENFORCEABLE STATE
OPERATING PERMIT (FESOP)
and ENHANCED NEW SOURCE REVIEW
OFFICE OF AIR MANAGEMENT**

**Four Seasons Housing, Inc.
11333 County Road 2
Middlebury, Indiana 46540**

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

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-8 and 326 IAC 2-1-3.2, as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: F 039-8569-00458	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date: February 3, 1999
First Administrative Amendment: AA 039-12196-00458	Pages Affected: 3, 5a and 5b replace 5, 27a and 27b replace 27, 32, 33, 35, 36, 37, and 38
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]

- C.10 Compliance Monitoring [326 IAC 2-8-4(3)] [326 IAC 2-8-5(a)(1)]
- C.11 Monitoring Methods [326 IAC 3]

Corrective Actions and Response Steps [326 IAC 2-8-4] [326 IAC 2-8-5]

- C.12 Risk Management Plan [326 IAC 2-8-4] [40 CFR 68.215]
- C.13 Compliance Monitoring Plan - Failure to Take Corrective Action [326 IAC 2-8-4]
- C.14 Actions Related to Noncompliance Demonstrated by a Stack Test

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

- C.15 Emission Statement [326 IAC 2-6] [326 IAC 2-8-4(3)]
- C.16 Monitoring Data Availability
- C.17 General Record Keeping Requirements [326 IAC 2-8-4(3)][326 IAC 2-8-5]
- C.18 General Reporting Requirements [326 IAC 2-8-4(3)(C)]

Stratospheric Ozone Protection

- C.19 Compliance with 40 CFR 82 and 326 IAC 22-1

SECTION D.1 FACILITY OPERATION CONDITIONS - Cabinet Assembly Area & Roof Assembly Area & Dry Wall Coating

Emission Limitations and Standards [326 IAC 2-8-4(1)]

- D.1.1 Particulate Matter (PM) [326 IAC 6-3-2]
- D.1.2 Volatile Organic Compounds (VOC) [326 IAC 8-2-12]
- D.1.3 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]
- D.1.4 FESOP Limit [326 IAC 2-8]
- D.1.5 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

Compliance Determination Requirements

- D.1.6 Testing Requirements [326 IAC 2-8-5(a)(1), (4)]
- D.1.7 Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAPs)
- D.1.8 VOC and HAP Emissions

Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]

- D.1.9 Particulate Matter (PM)
- D.1.10 Visible Emissions Notations
- D.1.11 Baghouse Inspections
- D.1.12 Broken Bag, Failed Bag or Failure Detection

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

- D.1.13 Record Keeping Requirements
- D.1.14 Reporting Requirements

SECTION D.2 FACILITY OPERATION CONDITIONS - Insignificant Activities

Emission Limitations and Standards [326 IAC 2-8-4(1)]

- D.2.1 Particulate Matter (PM) [326 IAC 6-3-2]

Compliance Determination Requirements

- D.2.2 Testing Requirements [326 IAC 2-8-5(a)(1), (4)]

SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-8-3(b)]

The Permittee owns and operates a stationary modular home manufacturing source.

Responsible Official: Ron Dorton
Source Address: 11333 County Road 2, Middlebury, Indiana 46540
Mailing Address: P.O. Box 630, Middlebury, Indiana 46540
SIC Code: 3792
County Location: Elkhart
County Status: Attainment for all criteria pollutants
Source Status: Federally Enforceable State Operating Permit (FESOP)
Minor Source, under PSD Rules;
Minor Source, Section 112 of the Clean Air Act

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

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

- (a) One (1) cabinet assembly area, constructed in 1997, consisting of adhesive application operations on wood and particle board substrates, woodworking operations including radial arm saws, bench saws, drill presses, chop saws, table saws, routers and a notcher, and an interior wall assembly area, equipped with a cyclone and baghouse for air pollution control and exhausting through stack R1, capacity: 4.0 modular homes per hour.
- (b) One (1) roof assembly area, constructed in 1997, consisting of adhesive and foam application operations on wood and plastic substrates, capacity: 4.0 modular homes per hour.
- (c) One (1) dry wall housing coating facility equipped with roll coaters, maximum capacity: 136.12 pounds of coating per hour.

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

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

Other categories with emissions below insignificant thresholds:

- (a) Welding operations with PM₁₀ emission less than twenty-five (25) pounds per day.
- (b) Flame cutting operations with PM₁₀ emission less than twenty-five (25) pounds per day.

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

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

SECTION D.1

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]

- (a) One (1) cabinet assembly area, constructed in 1997, consisting of adhesive application operations on wood and particle board substrates, woodworking operations including radial arm saws, bench saws, drill presses, chop saws, table saws, routers and a notcher, and an interior wall assembly area, equipped with a cyclone and baghouse for air pollution control and exhausting through stack R1, capacity: 4.0 modular homes per hour.
- (b) One (1) roof assembly area, constructed in 1997, consisting of adhesive and foam application operations on wood and plastic substrates, capacity: 4.0 modular homes per hour.
- (c) One (1) dry wall housing coating facility equipped with roll coaters, maximum capacity: 136.12 pounds of coating per hour.

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.1.1 Particulate Matter (PM) [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Process Operations), the allowable PM emission rate from the wood-working facilities shall not exceed 12.1 pounds per hour when operating at a process weight rate of 10,049 pounds per hour.

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

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

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

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

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

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

High Volume Low Pressure (HVLP) Spray Application is an accepted alternative method of application for Air Assisted Airless Spray Application. HVLP spray is the technology used to apply coating to substrate by means of coating application equipment which operates between one-tenth (0.1) and ten (10) pounds per square inch gauge (psig) air pressure measured dynamically at the center of the air cap and at the air horns of the spray system.

D.1.3 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]

Pursuant to 326 IAC 8-1-6 (New Facilities; General Reduction Requirements), the best available control technology (BACT) for the adhesive and foam applied to wood and plastic shall be:

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

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

Source Name: Four Seasons Housing, Inc.
Source Address: 11333 County Road 2, Middlebury, Indiana 46540
Mailing Address: P.O. Box 630, Middlebury, Indiana 46540
FESOP No.: F 039-8569-00458

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.

Please check what document is being certified:

- 9 Annual Compliance Certification Letter
- 9 Test Result (specify) _____
- 9 Report (specify) _____
- 9 Notification (specify) _____
- 9 Other (specify) _____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION
P.O. Box 6015
100 North Senate Avenue
Indianapolis, Indiana 46206-6015
Phone: 317-233-5674
Fax: 317-233-5967**

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

Source Name: Four Seasons Housing, Inc.
Source Address: 11333 County Road 2, Middlebury, Indiana 46540
Mailing Address: P.O. Box 630, Middlebury, Indiana 46540
FESOP No.: F 039-8569-00458

This form consists of 2 pages

Page 1 of 2

Check either No. 1 or No.2
9 1. This is an emergency as defined in 326 IAC 2-7-1(12) CThe Permittee must notify the Office of Air Management (OAM), within four (4) business hours (1-800-451-6027 or 317-233-5674, ask for Compliance Section); and CThe Permittee must submit notice in writing or by facsimile within two (2) days (Facsimile Number: 317-233-5967), and follow the other requirements of 326 IAC 2-7-16
9 2. This is a deviation, reportable per 326 IAC 2-7-5(3)(c) CThe Permittee must submit notice in writing within ten (10) calendar days

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

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

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

FESOP Quarterly Report

Source Name: Four Seasons Housing, Inc.
Source Address: 11333 County Road 2, Middlebury, Indiana 46540
Mailing Address: P.O. Box 630, Middlebury, Indiana 46540
FESOP No.: F 039-8569-00458
Facility: Adhesive and foam application and dry wall coating
Parameter: VOC usage
Limit: 98 tons per twelve (12) consecutive months

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this month.

9 Deviation/s occurred in this month.

Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

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

FESOP Quarterly Report

Source Name: Four Seasons Housing, Inc.
Source Address: 11333 County Road 2, Middlebury, Indiana 46540
Mailing Address: P.O. Box 630, Middlebury, Indiana 46540
FESOP No.: F 039-8569-00458
Facility: Adhesive and foam application and dry wall coating
Parameter: Total HAP usage
Limit: 23 tons per twelve (12) consecutive months

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this month.

9 Deviation/s occurred in this month.

Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

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

FESOP Quarterly Report

Source Name: Four Seasons Housing, Inc.
Source Address: 11333 County Road 2, Middlebury, Indiana 46540
Mailing Address: P.O. Box 630, Middlebury, Indiana 46540
FESOP No.: F 039-8569-00458
Facility: Adhesive and foam application and dry wall coating
Parameter: Individual HAP usage
Limit: 9.9 tons per twelve (12) consecutive months

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this month.

9 Deviation/s occurred in this month.

Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

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

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

Source Name: Four Seasons Housing, Inc.
Source Address: 11333 County Road 2, Middlebury, Indiana 46540
Mailing Address: P.O. Box 630, Middlebury, Indiana 46540
FESOP No.: F 039-8569-00458

Months: _____ to _____ Year: _____

This report is an affirmation that the source has met all the compliance monitoring requirements stated in this permit. This report shall be submitted quarterly. Any deviation from the compliance monitoring requirements and the date(s) of each deviation must be reported. Additional pages may be attached if necessary. This form can be supplemented by attaching the Emergency/ Deviation Occurrence Report. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".

9 NO DEVIATIONS OCCURRED THIS REPORTING PERIOD

9 THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD.

Compliance Monitoring Requirement (eg. Permit Condition D.1.3)	Number of Deviations	Date of each Deviation

Form Completed By: _____
Title/Position: _____
Date: _____
Phone: _____

Attach a signed certification to complete this report.

**Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Make up air unit**

**Company Name: Four Seasons Housing, Inc.
Address City IN Zip: 11133 County Road Two, Middlebury, IN 46540
AA: 039-12196-00458
FESOP: F 039-8569-00458
Reviewer: CarrieAnn Ortolani
Date: April 19, 2000**

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
3.90	34.16

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.032	0.130	0.010	1.71	0.094	1.43

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

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

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

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

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

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

Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

See page 3 for HAPs emissions calculations.

Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Make up air unit
HAPs Emissions

Company Name: Four Seasons Housing, Inc.
Address City IN Zip: 11133 County Road Two, Middlebury, IN 46540
AA: 039-12196-00458
FESOP: F 039-8569-00458
Reviewer: CarrieAnn Ortolani
Date: April 19, 2000

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	3.59E-05	2.05E-05	1.28E-03	3.07E-02	5.81E-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	8.54E-06	1.88E-05	2.39E-05	6.49E-06	3.59E-05

Methodology is the same as page 2.

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

**Emissions Calculations
VOC and Particulate
From Surface Coating Operations**

**Company Name: Four Seasons Housing, Inc.
Address City IN Zip: 11133 County Road Two, Middlebury, IN 46540
AA: 039-12196-00458
FESOP: F 039-8569-00458
Reviewer: CarrieAnn Ortolani
Date: April 19, 2000**

Material	Density (lbs/gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating**	Potential VOC (pounds per hour)	Potential VOC (pounds per day)	Potential VOC (tons per year)	Particulate Potential (tons/yr)	lbs VOC/gal solids	Transfer Efficiency
Speed wall interior latex flat	10.89	57.70%	57.3%	0.4%	0.0%	25.05%	12.50	0.05	0.18	2.20	52.80	9.64	0.00	0.19	100%
State Potential Emissions									Control Efficiency	0.00%					
Add worst case coating to all solvents									Uncontrolled		2.20	52.8	9.64	0.00	

** VOC pounds per gallon of coating is from the MSDS. The calculated value is lower. The more conservative number is used.

METHODOLOGY

- Pounds of VOC per Gallon Coating less Water = (Density (lbs/gal) * Weight % Organics) / (1-Volume % water)
- Pounds of VOC per Gallon Coating = Supplied in the MSDS
- Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lbs/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
- Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lbs/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
- Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lbs/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