



Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
(800) 451-6027
www.IN.gov/idem

TO: Interested Parties / Applicant
DATE: January 13, 2005
RE: Four Winds International, Inc. / SPR 039-20016-00220
FROM: Paul Dubenetzky
Chief, Permits Branch
Office of Air Quality

Notice of Decision: Approval - Effective Immediately

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

If you wish to challenge this decision, IC 4-21.5-3 and IC 13-15-6-1 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Room 1049, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

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

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

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for 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.dot 1/10/05



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We make Indiana a cleaner, healthier place to live.

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Governor

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January 13, 2005

Mr. Larry White
Four Winds International
P.O. Box 1486
Elkhart, Indiana 46515

Re: 039-20016
Third Significant Revision to
FESOP 039-14036-00220

Dear Mr. White:

Four Winds International was issued a permit on January 7, 2003 for a motor home/recreational vehicle manufacturing source. A letter requesting changes to this permit was received on September 3, 2004. Pursuant to the provisions of 326 IAC 2-8-11.1 a significant permit revision to this permit is hereby approved as described in the attached Technical Support Document.

The revision consists of approval to construct a new building, identified as Building 657, on land contiguous to its existing site and to make certain changes at the source. The modifications include the following:

- (a) The new building (Building 657) will be used to house operations that construct Class A diesel powered (Line 2) motor homes. These operations are currently located throughout other buildings in the FWI complex. The operations that will be relocated include sub-assembly operations conducted in Building 654 (A2SA) and final finish operations conducted in Building 656 (A2FF).
- (b) The woodworking operations conducted in Buildings 650 and 654 will be relocated to the new building.
- (c) The production rate on the Class A – Line 2 (Diesel Pusher Line) will be modified from the existing rate of 0.75 units per hour to the new rate 1.0 units per hour.
- (d) Miscellaneous space heating equipment, two (2) dust collection systems, and an undercoating bay will be added to the new building.

The proposed modification will result in an increase of potential volatile organic compound (VOC) emissions to greater than twenty-five (25) tons per year. Therefore, pursuant to 326 IAC 8-1-6 the source shall reduce VOC emissions from the new facilities, which are not regulated by other provisions of 326 IAC 8, using best available control technology (BACT). However, the Permittee shall maintain source wide VOC emission limit of less than 100 tons per year to stay as a FESOP source. The purpose of this review is to evaluate the level of control that constitutes BACT for the Class A-Line 2 sub-assembly and final finish operations.

Pursuant to 326 IAC 2-8-11.1, this permit shall be revised by incorporating the significant permit revision into the permit. All other conditions of the permit shall remain unchanged and in effect. Please attach a copy of this modification 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 Gaurav Shil, c/o OAQ, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, or call at (973) 575-2555, ext. 3259 or dial (800) 451-6027, and ask for extension 3-6878.

Sincerely,

Original signed by
Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

Attachments
GS/EVP

cc: File – Elkhart County
U.S. EPA, Region V
Elkhart County Health Department
Air Compliance Section Inspector – Paul Karkiewicz
Compliance Data Section
Administrative and Development
Technical Support and Modeling - Michelle Boner
IDEM Northern Regional Office



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FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP) RENEWAL OFFICE OF AIR QUALITY

**Four Winds International, Inc.
701 County Road 15
Elkhart, Indiana 46515-1486**

(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.

The Permittee must comply with all conditions of this permit. Noncompliance with any provision of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; and denial of a permit renewal application. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in Section B, Emergency Provisions.

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 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.: F039-14036-00220	
Issued by: Original signed by Paul Dubenetzky Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: January 7, 2003 Expiration Date: January 7, 2008
First Significant Permit Revision No.: 039-16264-00220	Issuance Date: March 11, 2003
Second Significant Permit Revision No.: 039-19330-00220	Issuance Date: October 8, 2004
Third Significant Permit Revision No.: 039-20016-00220	Pages Affected: 5, 7, 8, 9, 30, 31 and 38
Issued by: Original signed by Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: January 13, 2005

SECTION A SOURCE SUMMARY

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

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

The Permittee owns and operates a stationary motor home/recreational vehicle manufacturing source.

Authorized Individual:	President
Source Address:	701 County Road 15, Elkhart, Indiana 46515-1486
Mailing Address:	P.O. Box 1486, Elkhart, Indiana 46515-1486
General Source Phone:	(574) 266-1111
SIC Code:	3716
County Location:	Elkhart
County Status:	Nonattainment for 8-hour ozone; and Attainment for all other criteria pollutants
Source Status:	Federally Enforceable State Operating Permit (FESOP) Minor Source, under nonattainment NSR Rules; and 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:

Three (3) motor home product lines as follows:

- (a) One (1) Class C Line, producing a maximum of 3.125 units per hour, installed in January 1992, consisting of the following:
 - (1) Sub-assembly area coating operations, identified as CSA-1, consisting of:
 - (A) hand, roll, bead, aerosol, high volume low pressure (HVLP) spray, and cup gun spray application of miscellaneous coatings and adhesives applied to metal, wood construction materials, pre-finished wood cabinets and counter tops, plastic, and fiberglass product parts during motor home assembly, with emissions exhausting fugitively into the building; and
 - (B) hand and aerosol application of miscellaneous solvents and cleaners.
 - (2) Final finish area coating operations, identified as CFF, consisting of:
 - (A) hand, aerosol, cup gun spray, and pressure pot spray application of miscellaneous coatings applied to metal, wood construction materials, pre-fabricated cabinets and counter tops, and fiberglass parts during motor home finishing and touch-up, with emissions exhausting fugitively into the building; and
 - (B) hand and aerosol application of miscellaneous solvents and cleaners

- (c) One (1) Class A - Line 2 (Diesel Pusher Production Line), producing a maximum of 1.0 units per hour, installed in 2002, consisting of the following:
 - (1) Sub-assembly area coating operations, identified as A2SA and located in Building 657, consisting of:
 - (A) hand, roll, bead and aerosol application of miscellaneous coatings and adhesives applied to metal, wood construction materials, pre-finished wood cabinets and counter tops, plastic, and fiberglass product parts during motor home assembly, with emissions exhausting fugitively into the building; and
 - (B) hand and aerosol application of miscellaneous solvents and cleaners.
 - (2) Final finish area coating operations, identified as A2FF and located in building No. 657, consisting of:
 - (A) hand and aerosol application of miscellaneous coatings applied to metal, wood construction materials, pre-fabricated cabinets and counter tops, and fiberglass parts during motor home finishing and touch-up, with emissions exhausting fugitively into the building; and
 - (B) hand and aerosol application of miscellaneous solvents and cleaners.
 - (3) Metal frame undercoating bay to building 657, utilizing high pressure flow coat application with no particulate matter emissions.

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):

- (a) Natural gas fired combustion units with heat input capacities equal to or less than ten million (10,000,000) BTU per hour, itemized as follows:
 - (1) Building 650 includes twenty-five (25) 0.10 MMBtu per hour infrared tube heaters, four (4) 0.4 MMBtu per hour thermo cyclers, five (5) 0.3 MMBtu per hour gas fired unit furnaces, one (1) 0.4 MMBtu per hour air make up gas fired furnace, one (1) 2.64 MMBtu per hour air make up gas fired furnace, one (1) 0.15 MMBtu per hour barrel gas fired furnace, one (1) 0.1 MMBtu per hour gas fired unit furnace, three (3) 0.25 MMBtu per hour gas fired unit furnaces, one (1) 0.33 MMBtu per hour gas fired unit furnace, and two (2) 0.35 MMBtu per hour gas fired unit furnaces.
 - (2) Building 651 includes one (1) 0.13 MMBtu per hour down draft gas fired furnace, three (3) 0.1 MMBtu per hour gas fired furnaces, and one (1) 0.24 MMBtu per hour gas fired furnace.
 - (3) Building 653 includes one (1) 0.12 MMBtu per hour down draft gas fired furnace, one (1) 0.4 MMBtu per hour thermo cyler, two (2) 0.12 MMBtu per hour infrared tube heaters, and one (1) 1.0 MMBtu per hour air make up gas fired furnace.

- (4) Building 654 includes two (2) 0.55 MMBtu per hour air make up gas fired furnaces, eleven (11) 0.12 MMBtu per hour infrared tube heaters, four (4) 0.4 MMBtu per hour thermo cyclers, one (1) 0.49 MMBtu per hour air make up gas fired furnace, one (1) 0.03 MMBtu per hour gas fired unit furnace, two (2) 0.06 MMBtu per hour gas fired unit furnaces, and one (1) 0.1 MMBtu per hour gas fired unit furnace.
- (5) Buildings 655 and 656 include one (1) 7.7 MMBtu per hour air make up unit, four (4) 0.08 MMBtu per hour roof top heaters, two (2) 0.125 MMBtu per hour radiant heaters, one (1) 0.06 MMBtu per hour unit heater, one (1) 2.64 MMBtu per hour air make up unit, one (1) 0.58 MMBtu per hour furnace, and one (1) 0.04 MMBtu per hour radiant heater.
- (6) Buildings 657 includes six (6) 0.58 MMBtu per hour plant thermo-cycler heaters, two (2) 0.125 MMBtu per hour infrared heaters, one (1) 0.1 MMBtu per hour undercoat space heater, one (1) 0.1 MMBtu per hour compressor room heater, one (1) 0.08 MMBtu per hour breakroom heater, one (1) 0.08 MMBtu per hour office heater, and one (1) 0.06 MMBtu per hour office heater.
- (b) A gasoline fuel transfer and dispensing operation handling less than or equal to 1,300 gallons per day, such as filling of tanks, locomotives, automobiles, having a storage capacity less than or equal to 10,500 gallons;
- (c) Any operation using aqueous solutions containing less than 1% by weight of VOCs excluding HAPs;
- (d) Water based adhesives that are less than or equal to 5% by volume of VOCs excluding HAPs;
- (e) Paved and unpaved roads and parking lots with public access;
- (f) The following VOC and HAP storage containers:
 - Vessels storing lubricating oils, hydraulic oils, machining oils and machining fluids;
- (g) Application of oils, greases, lubricants or other non-volatile materials applied as temporary protective coatings;
- (h) Cleaners and solvents characterized as:
 - (1) Having a vapor pressure equal to or less than 2 kPa; 15mm Hg; or 0.3 psi measured at 38°C (100°F) or;
 - (2) Having a vapor pressure equal to or less than 0.7 kPa; 5mm Hg; or 0.1 psi measured at 20°C (68°F); the use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months.
- (i) Emergency generators as follows:
 - Reciprocating engines not exceeding 16,000 horsepower, consisting of:
 - (1) one (1) 144 hp natural gas fired reciprocating engine; and
 - (2) one (1) 80 hp natural gas fired reciprocating engine.

- (2) hand routing at Class A - Line 1, using up to 500 pounds of prefabricated fiberglass reinforced plastic (FRP) parts per hour, utilizing a cyclone (C4) as particulate matter control and exhausting within the building.
 - (3) steel and aluminum tube plasma/torch cutting and welding at Class C Line, consisting of two (2) floor assembly welding stations each using a maximum of 10 pounds of welding wire per hour and four (4) sidewall/roof assembly welding stations each using a maximum of 5 pounds of welding wire per hour, all exhausting within the building;
 - (4) steel and aluminum tube plasma/torch cutting and welding at building 655 for Class A - Line 1 and Line 2 (Diesel Pusher), consisting of four (4) floor assembly welding stations each using a maximum of 10 pounds of welding wire per hour and four (4) sidewall/roof assembly welding stations each using a maximum of 5 pounds of welding wire per hour, all exhausting within the building; and
 - (5) wood trim cutting at Class A - Line 1 final finish area, using up to 10 pounds of wood per hour, utilizing a cyclone with bag filter (C3) as particulate control and exhausting within the building.
 - (6) miscellaneous woodworking operations in Building 657, using 960 pounds of wood per hour, utilizing two dust collection systems identified as DC1 and DC2, all exhausting fugitively within the building.
- (k) Other activities and categories with negligible PM/PM10 emissions:
- (1) steel and aluminum tube cutting at Class A - Line 1, respectively sawing up to 63 and 130 linear feet per hour at an average thickness less than one (1) inch, with deposition of metal shavings in the building;
 - (2) seven (7) portable dust collectors, as a trivial activity, used at this source to control particulate matter emissions from the facilities and activities listed herein; and
 - (3) hand held routers used at building 655 as a trivial activity.
- (l) Application of miscellaneous solvents and cleaners for maintenance at the Class C, Class A - Line 1, and Class A - Line 2 product line buildings, with VOC emissions below the insignificant thresholds of three (3) pounds per hour or 15 pounds per day.
- (m) Other activities and categories with negligible VOC emissions:
Class A - Line 1 and Line 2 (Diesel Pusher Line) lamination process, located in building No. 655, using non-volatile adhesives applied with a flow coat application system.

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 Quality (OAQ) to renew a Federally Enforceable State Operating Permit (FESOP).

A.5 Prior Permits Superseded [326 IAC 2-1.1-9.5]

- (a) All terms and conditions of previous permits issued pursuant to permitting programs approved into the state implementation plan have been either
 - (1) incorporated as originally stated,

SECTION D.1

FACILITY OPERATION CONDITIONS

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

- (a) One (1) Class C Line, producing a maximum of 3.125 units per hour, installed in January 1992, consisting of the following:
- (1) Sub-assembly area coating operations, identified as CSA-1, consisting of:
 - (A) hand, roll, bead, aerosol, high volume low pressure (HVLP) spray, and cup gun spray application of miscellaneous coatings and adhesives applied to metal, wood construction materials, pre-finished wood cabinets and counter tops, plastic, and fiberglass product parts during motor home assembly, with emissions exhausting fugitively into the building; and
 - (B) hand and aerosol application of miscellaneous solvents and cleaners.
 - (2) Final finish area coating operations, identified as CFF, consisting of:
 - (A) hand, aerosol, cup gun spray, and pressure pot spray application of miscellaneous coatings applied to metal, wood construction materials, pre-fabricated cabinets and counter tops, and fiberglass parts during motor home finishing and touch-up, with emissions exhausting fugitively into the building; and
 - (B) hand and aerosol application of miscellaneous solvents and cleaners.
 - (3) Metal frame undercoating spray application area, identified as CUA, with emissions exhausting fugitively into the building.
- (b) One (1) Class A - Line 1, producing a maximum of 1.5 units per hour, installed in June 1999, consisting of the following:
- (1) Sub-assembly area coating operations, identified as A1SA, consisting of:
 - (A) hand, roll, bead, aerosol, high volume low pressure (HVLP) spray and airless spray application of miscellaneous coatings and adhesives applied to metal, wood construction materials, pre-finished wood cabinets and counter tops, plastic, and fiberglass product parts during motor home assembly, with emissions exhausting fugitively into the building; and
 - (B) hand and aerosol application of miscellaneous solvents and cleaners.
 - (2) Final finish area coating operations, identified as A1FF, consisting of:
 - (A) hand, aerosol, high volume low pressure (HVLP) spray, and airless spray application of miscellaneous coatings applied to metal, wood construction materials, pre-fabricated cabinets and counter tops, and fiberglass parts during motor home finishing and touch-up, with emissions exhausting fugitively into the building; and
 - (B) hand and aerosol application of miscellaneous solvents and cleaners.
- (c) One (1) Class A - Line 2 (Diesel Pusher Production Line), producing a maximum of 1.0 units per hour, installed in 2002, consisting of the following:
- (1) Sub-assembly area coating operations, identified as A2SA and located in Building 657, consisting of:
 - (A) hand, roll, bead and aerosol application of miscellaneous coatings and adhesives applied to metal, wood construction materials, pre-finished wood cabinets and counter tops, plastic, and fiberglass product parts during motor home assembly, with emissions exhausting fugitively into the building; and
 - (B) hand and aerosol application of miscellaneous solvents and cleaners.
 - (2) Final finish area coating operations, identified as A2FF and located in building No. 657, consisting of:
 - (A) hand and aerosol application of miscellaneous coatings applied to metal, wood construction materials, pre-fabricated cabinets and counter tops, and fiberglass parts during motor home finishing and touch-up, with emissions exhausting fugitively into the building; and
 - (B) hand and aerosol application of miscellaneous solvents and cleaners.
 - (3) Metal frame undercoating bay to building 657, utilizing high pressure flow coat application with no particulate matter emissions.

The source also consists of the following insignificant activities, as defined in 326 IAC 2-7-1(21):

- (l) Application of miscellaneous solvents and cleaners for maintenance at the Class C, Class A - Line 1, and Class A - Line 2 product line buildings, with VOC emissions below the insignificant thresholds of three (3) pounds per hour or 15 pounds per day.

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

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

D.1.1 Volatile Organic Compounds (VOC) [326 IAC 2-8-4][326 IAC 2-2][326 IAC 2-1.1-5]

The total combined VOC input usage to the Class C, Class A - Line 1, and Class A - Line 2 product lines, including but not limited to the usage of sealants, bonding materials, adhesives, caulks, wood stains, paints and VOC solvents, minus used VOC in coating or cleanup solvents shipped off site, shall be limited to 99.5 tons per twelve (12) consecutive month period with compliance demonstrated at the end of each month. This usage limit is equivalent to 99.5 tons of VOC emitted per 12 consecutive month period.

Compliance with this limitation, including the potential to emit for insignificant activities, shall limit the source-wide potential to emit of VOC to less than 100 tons per year and make the requirements of 326 IAC 2-7 (Part 70) not applicable to the source. Compliance with this condition shall also make the requirements of 326 IAC 2-2 and nonattainment new source review not applicable to the source.

D.1.2 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]

Pursuant to the BACT determination under 326 IAC 8-1-6 (New Facilities, General Reduction Requirements), operation of facilities CSA-1, CFF, A1SA, A1FF, A2SA and A2FF without the use of add-on controls and with the following work practices will satisfy the BACT requirements:

- (a) When applying adhesives to plastic substrates, no coating shall be used with a VOC content of greater than 3.33 pounds of VOC per gallon of coating as applied.
- (b) When applying paints or primer coatings to plastic substrates, no coating shall be used with a VOC content of greater than 5.19 pounds of VOC per gallon of coating as applied.
- (c) All containers of solvents or solutions shall be kept closed when not in actual use except during product transfers to minimize evaporation.
- (d) All waste materials including spent wiping rags and spent solvents shall be stored in closed containers at all times except during product transfers to minimize solvent evaporation.
- (e) Unless prepackaged by the manufacturer and intended for use as an aerosol or atomized product, all solvents or solutions used shall be hand or manually applied. Hand or manual application shall include the use of cloths or wipes, including the use of handheld and hand actuated application spray bottles. No solvents or solutions shall be spray applied or applied in a manner that causes excessive atomization or promotes excessive evaporation.
- (f) Waste solvents or solutions shall not be disposed by allowing products to evaporate.
- (g) Solvent containing rags shall not be allowed to air dry to allow for reuse.

D.1.3 Volatile Organic Compounds (VOC) [326 IAC 8-2-9]

Any change or modification which may increase actual VOC emissions for coating metals to greater than fifteen (15) pounds per day, before add-on controls, when coating metal parts at each of facilities CSA-1, CFF, CUA, A1SA, A1FF, A2SA and A2FF shall require OAQ's prior approval before such change can take place at any of these facilities.

SECTION D.3

FACILITY OPERATION CONDITIONS

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

The source also consists of the following insignificant activities, as defined in 326 IAC 2-7-1(21):

- (a) A gasoline fuel transfer and dispensing operation handling less than or equal to 1,300 gallons per day, such as filling of tanks, locomotives, automobiles, having a storage capacity less than or equal to 10,500 gallons;
- (b) Other activities and categories with PM/PM10 emissions below the insignificant thresholds of five (5) pounds per hour or twenty-five (25) pounds per day:
 - (1) miscellaneous woodworking at Class A - Line 1 subassembly, using 425 pounds of wood per hour, exhausting fugitively within the building;
 - (2) hand routing at Class A - Line 1, using up to 500 pounds of prefabricated fiberglass reinforced plastic (FRP) parts per hour, utilizing a cyclone (C4) as particulate matter control and exhausting within the building.
 - (3) miscellaneous woodworking operations in Building 657, using 960 pounds of wood per hour, utilizing two dust collection systems identified as DC1 and DC2, all exhausting fugitively within the building.

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

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

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

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), particulate emitted from the facilities listed below shall be limited as stated, based on the following:

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

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

Emission Unit/Activity	Process Weight Rate (lbs/hr)	Allowable Emissions (326 IAC 6-3-2) (lb/hr)
Class A - Line 1 miscellaneous woodworking	425	1.45
Class A - Line 1 routing of fiberglass parts	500	1.62
Building 657 Dust Collector 1 (DC1)	480	1.58
Building 657 Dust Collector 2 (DC2)	480	1.58

D.3.2 Volatile Organic Compounds (VOC) [326 IAC 8-4-6, 326 IAC 8-4-9]

Any change or modification which may increase monthly gasoline throughput to ten thousand (10,000) gallons or more from the gasoline fuel transfer and dispensing operation shall require approval from IDEM, OAQ, prior to making the change.

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

Technical Support Document (TSD) for a Significant Permit Revision to a
Federally Enforceable State Operating Permit

Source Background and Description

Source Name:	Four Winds International, Inc.
Source Location:	701 CR 15, Elkhart, IN 46516
County:	Elkhart
SIC Code:	3716
Operation Permit No.:	F039-14026-00220
Operating Permit Revision No.:	F039-20016-00220
Operation Permit Issuance Date:	January 7, 2003
Permit Reviewer:	Gaurav Shil / EVP

The Office of Air Quality (OAQ) has reviewed a revision application from Four Winds International, Inc. relating to construction of a new building, relocation of existing operations to the new building and construction of miscellaneous equipment.

Explanation of Revisions Requested

On September 3, 2004, Four Winds International, Inc. (FWI) submitted an application to the OAQ requesting authorization to construct a new building, identified as Building 657, on land contiguous to its existing site and to make certain changes at the source. The modifications include the following:

- (a) The new building (Building 657) will be used to house operations that construct Class A diesel powered (Line 2) motor homes. These operations are currently located throughout other buildings in the FWI complex. The operations that will be relocated include sub-assembly operations conducted in Building 654 (A2SA) and final finish operations conducted in Building 656 (A2FF).
- (b) The woodworking operations conducted in Buildings 650 and 654 will be relocated to the new building.
- (c) The production rate on the Class A – Line 2 (Diesel Pusher Line) will be modified from the existing rate of 0.75 units per hour to the new rate 1.0 units per hour.
- (d) The source also requested approval to add miscellaneous space heating equipment, two (2) dust collection systems, and an undercoating bay to the new building.

The proposed modification will result in an increase of potential volatile organic compound (VOC) emissions to greater than twenty-five (25) tons per year. Therefore, pursuant to 326 IAC 8-1-6 the source shall reduce VOC emissions from the new facilities, which are not regulated by other provisions of 326 IAC 8, using best available control technology (BACT). Although there is a net increase in the potential emission rate of the source, FWI shall not exceed the overall source limit for VOC of 99.2 tons per consecutive twelve (12) month period.

The BACT analysis focuses on the application of hand and aerosol applied adhesives, touchup paints, wiping solvents, and lubricants when they are applied to non-wood and non-metal substrates. The following facilities require evaluation in this BACT analysis:

- (a) One (1) Class A - Line 2 (Diesel Pusher Production Line), producing a maximum of 1.0 units per hour, installed in 2002, consisting of the following:
 - (1) Sub-assembly area coating operations, identified as A2SA; and
 - (2) Final finish area coating operations, identified as A2FF.

Existing Approvals

The source was issued a FESOP Renewal No. F039-14036-00220 on January 7, 2003. The source has since received the following:

- (a) First Significant Permit Revision No. 039-16264, issued on March 11, 2003.
- (b) Second Significant Permit Revision No. 039-19330, issued on October 8, 2004.

Enforcement Issue

There are no enforcement actions pending.

Stack Summary

Stack ID	Operation	Height (ft)	Diameter (in.)	Flow Rate (acfm)	Temperature (°F)
657-S1	Area Vent	32.5	48	25,000	Ambient
657-S2	Area Vent	32.5	48	25,000	Ambient
657-S3	Area Vent	32.5	48	25,000	Ambient
657-S4	Area Vent	32.5	48	25,000	Ambient
657-S5	Area Vent	32.5	48	25,000	Ambient
657-S6	Area Vent	32.5	48	25,000	Ambient
657-S7	Area Vent	30.5	48	25,000	Ambient
657-S8	Compressor Room Vent	29	48	25,000	90
OH1-657	Office Heater	34	6	1,000	500
OH2-657	Office Heater	34	6	1,000	500
BH1-657	Breakroom Heater	34	6	1,000	500
TC1-657 through TC6-657	Air Makeup Space Heaters	28	8	1,500	500
IR1-657	Infrared Heater	34	6	1,250	500
IR2-657	Infrared Heater	34	6	1,250	500
IR1-657	Infrared Heater	34	6	1,250	500
UH1-657	Undercoat Bay Heater	34	6	1,250	500
CR1-657	Compressor Room Heater	31	6	1,250	500

Recommendation

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

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

An application for the purposes of this review was received on September 3, 2004.

Emission Calculations

Please refer Appendix A of this document for detailed emissions calculations (six (6) pages).

Potential To Emit for the Revision

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

Pollutant	Potential to Emit (tons/yr)
PM	124.72
PM-10	124.72
SO ₂	0.01
VOC	66.05
CO	1.53
NO _x	1.82

HAPs	Potential to Emit (tons/yr)
Methyl Isobutyl Ketone	1.54
Hexane	1.52
Glycol Ethers	0.45
Methanol	0.15
Toluene	3.59
Methyl Ethyl Ketone	0.17
Xylene	0.2
Ethyl Benzene	0.02
Other	0.04
Total	7.66

The above tables reflect the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Justification for Revision

The FESOP is being revised through a Significant Permit Revision based on the following:

- (a) This revision is being performed pursuant to 326 IAC 2-8-11.1 (f)(1)(C) since the modification is subject to the provisions of 326 IAC 8-1-6.

Actual Emissions

The following table shows the actual emissions from the source. This information reflects calendar year 2001 emissions, based upon the Indiana Air Emission Summary Data for criteria pollutants and the Toxic Release Report maintained by the IDEM Office of Pollution Prevention and Technical Assistance.

Pollutant	Emissions (ton/yr)
PM	7.04
PM10	7.04
SO ₂	0.01
VOC	35.62
CO	0.18
NO _x	0.9
single HAP	3.0
total HAPs	3.0

Existing Source Status

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

Pollutant	Emissions (ton/yr)
PM	19.9
PM10	20.6
SO ₂	0.1
VOC	< 100
CO	8.1
NO _x	13.7
single HAP	<10
total HAPs	<25

- (a) This existing source is not a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not one of the 28 listed source categories.
- (b) These emissions are based upon FESOP Renewal No. F039-14036-00220, issued on January 7, 2003.

Potential to Emit of Revision After Issuance

The source, issued FESOP Renewal No. F039-14036-00220 on January 7, 2003, has opted to remain a FESOP source, rather than apply for a Part 70 Operating Permit. The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered enforceable only after issuance of this Federally Enforceable State Operating Permit and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

Process/emission unit	Potential to Emit (PTE) After Issuance (tons/year)						
	PM	PM ₁₀	SO ₂	VOC	CO	NO _x	HAPs
Class A - Line 2 coating operations (Sub-assembly & Final Finish) Building 657	0.1	0.1	0.00	<99.2*	0.00	0.00	<10 (single) <25 (total)
Building 657 Woodworking Operations	13.8	13.8	0.00	0.00	0.00	0.00	
Natural gas combustion as an insignificant activity Building 657	0.14	0.14	0.01	0.1	1.53	1.82	
Total PTE for Revision after Issuance	14.04	14.04	0.01	< 100	1.53	1.82	<10 (single) <25 (total)
PSD Threshold Level	250	250	250	250	250	250	N/A

Process/emission unit	Potential to Emit (PTE) After Issuance (tons/year)						
	PM	PM ₁₀	SO ₂	VOC	CO	NO _x	HAPs
Class A - Line 1; Class A - Line 2; and Class C coating operations (Sub-assembly & Final Finish)	2.26	2.26	0.00	<99.2*	0.00	0.00	<10 (single) <25 (total)
Class A Lines 1 & 2 steel & aluminum ** tube welding	2.41	2.41	0.00	0.00	0.00	0.00	
Class C Line 2 steel & aluminum tube ** welding	2.41	2.41	0.00	0.00	0.00	0.00	
Natural gas combustion as an insignificant activity	0.39	1.13	0.06	0.80	9.66	15.50	
Class A Lines 1 & 2 subassembly ** & final finish woodworking and machining operations	27.23	27.23	0.00	0.00	0.00	0.00	
Class C subassembly & final ** finish woodworking operations	13.23	13.23	0.00	0.00	0.00	0.00	
Total PTE for Source after Issuance	61.97	62.71	0.06	< 100	9.66	15.50	<10 (single) <25 (total)
PSD Threshold Level	250	250	250	250	250	250	N/A
Part 70 Threshold Level	100	100	100	100	100	100	10 (single) 25 (total)

* Reflects revised source-wide VOC emission limitation taken from Condition D.1.1 of FESOP Renewal No. F039-14036-00220, issued on January 7, 2003.

** Reflects 326 IAC 6-3-2(e) allowable emission rate (lb/hr) extrapolated on an equivalent annual basis assuming 8,760 hours of operation.

This modification to an existing minor stationary source is not major because the emission increase after the modification is less than the PSD threshold levels. Therefore, pursuant to 326 IAC 2-2 PSD requirements do not apply.

County Attainment Status

The source is located in Elkhart County.

Pollutant	Status
PM-10	Attainment
SO ₂	Attainment
NO ₂	Attainment
1-hr Ozone	Attainment
8-hr Ozone	Nonattainment
CO	Attainment
Lead	Attainment

- (a) 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 the ozone standards. Elkhart County has been designated as nonattainment for the 8-hour ozone standard. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for nonattainment new source review.
- (b) Elkhart County has been classified as attainment for all criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Federal Rule Applicability

- (a) The requirements of the National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR 63.7485, Subpart DDDDD) are not included in the permit since the source is not a major source of HAP as defined in 40 CFR 63.2.

State Rule Applicability

326 IAC 2-4.1-1 (New Source Toxics Control)

Pursuant to 326 IAC 2-4.1-1 (New Source Toxics Control), any process or production unit, which in and of itself emits or has the PTE 10 tons per year of any HAP or 25 tons per year of the combination of HAPs, and is constructed or reconstructed after July 27, 1997, must be controlled using technologies consistent with Maximum Achievable Control Technology (MACT).

Pursuant to 40 CFR 63.41, this modification to existing operations is not considered a reconstruction because the cost to increase capacity to each product line does not equal or exceed 50% of the cost to construct new comparable processes, and the total source-wide usage of any single HAP and total combination of HAPs shall respectively continue to be limited less than 10 tons and 25 tons per 12 consecutive month period after this revision. Therefore, the requirements of 326 IAC 2-4.1-1 continue to not apply.

326 IAC 6-3-2 (Particulate emission limitations, work practices, and control technologies)

Pursuant to this rule the particulate matter (PM) from the facilities shall be limited by the following:

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

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

where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

The maximum process rate for the Building 657 Dust Collector 1, identified as DC1, is 0.24 tons per hour. Hence, based on the above formula the allowable particulate emission rate shall be 1.58 pounds per hour.

The maximum process rate for the Building 657 Dust Collector 2, identified as DC2, is also 0.24 tons per hour. Hence, based on the above formula the allowable particulate emission rate shall be 1.58 pounds per hour.

The controlled particulate emissions from the Building 657 Dust Collectors 1 and 2 are each 0.1421 lb/hr. Hence, DC1 and DC2 are in compliance with 326 IAC 6-3-2.

326 IAC 8-1-6 (New Facilities, General Reduction Requirements)

This rule applies to facilities located anywhere in the state that were constructed on or after January 1, 1980, which have potential volatile organic compound (VOC) emissions of 25 tons per year or more, and which are not otherwise regulated by another provision of Article 8. Since this modification has the potential to emit greater than 25 tons per year VOC pursuant to 326 IAC 8-1-6, the modification must reduce VOC emissions using the Best Available Control Technology (BACT). IDEM has determined that BACT for this modification is the use of low VOC coatings and the following Best Management Practices (BMP) for solvent wiping operations to minimize VOC emissions. Please refer Appendix B for detailed BACT determination.

1. When applying adhesives to plastic substrates, no coating shall be used with a VOC content of greater than 3.33 pounds of VOC per gallon of coating as applied.
2. When applying paints or primer coatings to plastic substrates, no coating shall be used with a VOC content of greater than 5.19 pounds of VOC per gallon of coating as applied.
3. All containers of solvents or solutions shall be kept closed when not in actual use except during product transfers to minimize evaporation.
4. All waste materials including spent wiping rags and spent solvents shall be stored in closed containers at all times except during product transfers to minimize solvent evaporation.
5. Unless prepackaged by the manufacturer and intended for use as an aerosol or atomized product, all solvents or solutions used shall be hand or manually applied. Hand or manual application shall include the use of cloths or wipes, including the use of handheld and hand actuated application spray bottles. No solvents or solutions shall be spray applied or applied in a manner that causes excessive atomization or promotes excessive evaporation.

6. Waste solvents or solutions shall not be disposed by allowing products to evaporate.
7. Solvent containing rags shall not be allowed to air dry to allow for reuse.

Testing Requirements

Compliance testing is not required of this source since the coating material usage and related VOC and volatile organic HAP emissions assume an emission factor of 2,000 pounds of pollutant emitted per ton of pollutant input to the coating operation, and the woodworking operations are controlled by baghouse and, along with other processes, have emissions below the relevant allowable particulate matter emission rates.

Compliance Requirements

Permits issued under 326 IAC 2-8 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-8-4. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

There are no new compliance monitoring requirements applicable to this source revision.

Changes to the Federally Enforceable State Operating Permit (FESOP) due to this Revision:

The following changes are made as the second Significant Permit Revision to FESOP Renewal No. 039-14036-00220 (new language is shown in **bold** and deleted language is shown with a ~~line through it~~):

1. Section A.2, Emission Units and Pollution Control Equipment Summary and the Section D.1 facility description box are revised to reflect the product line production rate changes and to acknowledge that the existing Class A - Line 2 sub-assembly operations, A2SA, and final finish area coating operations, A2FF, are re-located into new building No. 657:

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:

- (c) One (1) Class A - Line 2 (Diesel Pusher Production Line), producing a maximum of ~~0.75~~ **1.0** units per hour, installed in 2002, consisting of the following:
 - (1) Sub-assembly area coating operations, identified as A2SA, **and located in Building 657**, consisting of:

- (A) hand, roll, bead and aerosol application of miscellaneous coatings and adhesives applied to metal, wood construction materials, pre-finished wood cabinets and counter tops, plastic, and fiberglass product parts during motor home assembly, with emissions exhausting fugitively into the building; and
- (B) hand and aerosol application of miscellaneous solvents and cleaners.
- (2) Final finish area coating operations, identified as A2FF and located in building No. ~~656~~ **657**, consisting of:
 - (A) hand and aerosol application of miscellaneous coatings applied to metal, wood construction materials, pre-fabricated cabinets and counter tops, and fiberglass parts during motor home finishing and touch-up, with emissions exhausting fugitively into the building; and
 - (B) hand and aerosol application of miscellaneous solvents and cleaners.
- (3) **Metal frame undercoating bay to building 657, utilizing high pressure flow coat application with no particulate matter emissions.**

SECTION D.1

FACILITY OPERATION CONDITIONS

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

- (c) One (1) Class A - Line 2 (Diesel Pusher Production Line), producing a maximum of ~~0.75~~ **1.0** units per hour, installed in 2002, consisting of the following:
 - (1) Sub-assembly area coating operations, identified as A2SA, **and located in Building 657**, consisting of:
 - (A) hand, roll, bead and aerosol application of miscellaneous coatings and adhesives applied to metal, wood construction materials, pre-finished wood cabinets and counter tops, plastic, and fiberglass product parts during motor home assembly, with emissions exhausting fugitively into the building; and
 - (B) hand and aerosol application of miscellaneous solvents and cleaners.
 - (2) Final finish area coating operations, identified as A2FF and located in building No. ~~656~~ **657**, consisting of:
 - (A) hand and aerosol application of miscellaneous coatings applied to metal, wood construction materials, pre-fabricated cabinets and counter tops, and fiberglass parts during motor home finishing and touch-up, with emissions exhausting fugitively into the building; and
 - (B) hand and aerosol application of miscellaneous solvents and cleaners.
 - (3) **Metal frame undercoating bay to building 657, utilizing high pressure flow coat application with no particulate matter emissions.**

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

2. Section A.3 is revised at paragraphs (a) and (j) to include the changes to the insignificant activities due to this revision:

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):

- (a) Natural gas fired combustion units with heat input capacities equal to or less than ten million (10,000,000) BTU per hour, itemized as follows:

(6) Buildings 657 includes six (6) 0.58 MMBtu per hour plant thermo-cycler heaters, two (2) 0.125 MMBtu per hour infrared heaters, one (1) 0.1 MMBtu per hour undercoat space heater, one (1) 0.1 MMBtu per hour compressor room heater, one (1) 0.08 MMBtu per hour breakroom heater, one (1) 0.08 MMBtu per hour office heater, and one (1) 0.06 MMBtu per hour office heater.

- (j) Other activities and categories with PM/PM10 emissions below the insignificant thresholds of five (5) pounds per hour or twenty-five (25) pounds per day:

(6) miscellaneous woodworking operations in Building 657, using 960 pounds of wood per hour, utilizing two dust collection systems identified as DC1 and DC2, all exhausting fugitively within the building.

3. Condition D.1.2 is revised to include the BACT determination under 326 IAC 8-1-6 for the operation of Class A-Line 2 sub-assembly and final finish operations conducted in Building 657:

D.1.2 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]

Pursuant to the BACT determination under 326 IAC 8-1-6 (New Facilities, General Reduction Requirements), operation of facilities CSA-1, CFF, A1SA, ~~and~~ A1FF, **A2SA and A2FF** without the use of add-on controls and with the following work practices will satisfy the BACT requirements:

- (a) When applying adhesives to plastic substrates, no coating shall be used with a VOC content of greater than 3.33 pounds of VOC per gallon of coating as applied.
- (b) When applying paints or primer coatings to plastic substrates, no coating shall be used with a VOC content of greater than 5.19 pounds of VOC per gallon of coating as applied.
- (c) All containers of solvents or solutions shall be kept closed when not in actual use except during product transfers to minimize evaporation.
- (d) All waste materials including spent wiping rags and spent solvents shall be stored in closed containers at all times except during product transfers to minimize solvent evaporation.
- (e) Unless prepackaged by the manufacturer and intended for use as an aerosol or atomized product, all solvents or solutions used shall be hand or manually applied. Hand or manual application shall include the use of cloths or wipes, including the use of handheld and hand actuated application spray bottles. No solvents or solutions shall be spray applied or applied in a manner that causes excessive atomization or promotes excessive evaporation.

- (f) Waste solvents or solutions shall not be disposed by allowing products to evaporate.
- (g) Solvent containing rags shall not be allowed to air dry to allow for reuse.

4. Section D.3 is revised to include the Building 657 dust collectors, DC1 and DC2:

SECTION D.3 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:
 The source also consists of the following insignificant activities, as defined in 326 IAC 2-7-1(21):

- (a) A gasoline fuel transfer and dispensing operation handling less than or equal to 1,300 gallons per day, such as filling of tanks, locomotives, automobiles, having a storage capacity less than or equal to 10,500 gallons;
- (b) Other activities and categories with PM/PM10 emissions below the insignificant thresholds of five (5) pounds per hour or twenty-five (25) pounds per day:
 - (1) miscellaneous woodworking at Class A - Line 1 subassembly, using 425 pounds of wood per hour, exhausting fugitively within the building;
 - (2) hand routing at Class A - Line 1, using up to 500 pounds of prefabricated fiberglass reinforced plastic (FRP) parts per hour, utilizing a cyclone (C4) as particulate matter control and exhausting within the building.
 - (3) **miscellaneous woodworking operations in Building 657, using 960 pounds of wood per hour, utilizing two dust collection systems identified as DC1 and DC2, all exhausting fugitively within the building.**

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

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

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

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), particulate emitted from the facilities listed below shall be limited as stated, based on the following:

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

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

where E = rate of emission in pounds per hour and
 P = process weight rate in tons per hour

Emission Unit/Activity	Process Weight Rate (lbs/hr)	Allowable Emissions (326 IAC 6-3-2) (lb/hr)
Class A - Line 1 miscellaneous woodworking	425	1.45
Class A - Line 1 routing of fiberglass parts	500	1.62
Building 657 Dust Collector 1 (DC1)	480	1.58
Building 657 Dust Collector 1 (DC1)	480	1.58

5. Section A.1 is revised to make changes to the Authorized Individual, County Status and Source

Status for the source:

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

The Permittee owns and operates a stationary motor home/recreational vehicle manufacturing source.

Authorized Individual:	Jeff Kime , President
Source Address:	701 County Road 15, Elkhart, Indiana 46515-1486
Mailing Address:	P.O. Box 1486, Elkhart, Indiana 46515-1486
General Source Phone:	(574) 266-1111
SIC Code:	3716
County Location:	Elkhart
County Status:	Nonattainment for 8-hour ozone; and Attainment for all other criteria pollutants
Source Status:	Federally Enforceable State Operating Permit (FESOP) Minor Source, under PSD Rules; Minor Source, under nonattainment NSR Rules; and Minor Source, Section 112 of the Clean Air Act

Conclusion

The operation of this motor home/recreational vehicle manufacturing source shall be subject to the conditions of the attached proposed Significant Permit Revision No. 039-20016-00220.

Indiana Department of Environmental Management Office of Air Quality

Addendum to the Technical Support Document (TSD) for a Significant Permit Revision to a Federally Enforceable State Operating Permit

Source Background and Description

Source Name:	Four Winds International, Inc.
Source Location:	701 CR 15, Elkhart, IN 46516
County:	Elkhart
SIC Code:	3716
Operation Permit No.:	F039-14026-00220
Operating Permit Revision No.:	F039-20016-00220
Operation Permit Issuance Date:	January 7, 2003
Permit Reviewer:	Gaurav Shil / EVP

On December 3, 2004, the Office of Air Quality (OAQ) had a notice published in the Elkhart Truth, Elkhart, IN stating that Four Winds International, Inc. had applied for a FESOP Significant Permit Revision for construction of a new building, relocation of existing operations to the new building and construction of miscellaneous equipment. The notice also stated that OAQ proposed to issue a permit for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

No comments were received on the proposed permit. However, upon further consideration, IDEM, OAQ has decided to make changes to the permit as indicated below. Changes made to the permit are shown in bold and deleted permit language is shown with a line through it. Any permit changes affecting the permit's Table of Contents and formatting changes are also made without replication herein.

- On Page 38 of 46, Condition D.3.1, in the emission rates table the "Building 657 Dust Collector 1 (DC1)" is listed twice. Dust Collector 1 should only be listed once. Therefore, Condition D.3.1 is revised to replace the reference to DC1 with "Building 657 Dust Collector 2 (DC2)":

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

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

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), particulate emitted from the facilities listed below shall be limited as stated, based on the following:

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

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

Emission Unit/Activity	Process Weight Rate (lbs/hr)	Allowable Emissions (326 IAC 6-3-2) (lb/hr)
Class A - Line 1 miscellaneous woodworking	425	1.45
Class A - Line 1 routing of fiberglass parts	500	1.62
Building 657 Dust Collector 1 (DC1)	480	1.58
Building 657 Dust Collector 1 (DC 1 2)	480	1.58

Pages 11 of 12 of Technical Support Document is revised to replace the reference to DC1 with DC2 in the allowable emissions table. The changes are made to the Technical Support Document with this addendum. However IDEM prefers that the Technical Support Document reflect the permit that was on public notice. Changes to the Technical Support Document that occur after the public notice are documented in this Addendum to the Technical Support Document. This accomplishes the desired result of ensuring that all comments and responses are documented and part of the records regarding this permit decision.

IDEM agrees that Page 11 of TSD should have read as follows:

4. Section D.3 is revised to include the Building 657 dust collectors, DC1 and DC2:

SECTION D.3 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:
 The source also consists of the following insignificant activities, as defined in 326 IAC 2-7-1(21):

- (a) A gasoline fuel transfer and dispensing operation handling less than or equal to 1,300 gallons per day, such as filling of tanks, locomotives, automobiles, having a storage capacity less than or equal to 10,500 gallons;
- (b) Other activities and categories with PM/PM10 emissions below the insignificant thresholds of five (5) pounds per hour or twenty-five (25) pounds per day:
 - (1) miscellaneous woodworking at Class A - Line 1 subassembly, using 425 pounds of wood per hour, exhausting fugitively within the building;
 - (2) hand routing at Class A - Line 1, using up to 500 pounds of prefabricated fiberglass reinforced plastic (FRP) parts per hour, utilizing a cyclone (C4) as particulate matter control and exhausting within the building.
 - (3) **miscellaneous woodworking operations in Building 657, using 960 pounds of wood per hour, utilizing two dust collection systems identified as DC1 and DC2, all exhausting fugitively within the building.**

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

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

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), particulate emitted from the facilities listed below shall be limited as stated, based on the following:

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

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

Emission Unit/Activity	Process Weight Rate (lbs/hr)	Allowable Emissions (326 IAC 6-3-2) (lb/hr)
Class A - Line 1 miscellaneous woodworking	425	1.45
Class A - Line 1 routing of fiberglass parts	500	1.62
Building 657 Dust Collector 1 (DC1)	480	1.58
Building 657 Dust Collector 42 (DC42)	480	1.58

**Appendix A: Emissions Calculations
Summary Emissions**

Company Name: Four Winds International, Inc.
Address City IN Zip: 701 County Road 15, Elkhart, Indiana 46515
FESOP SPR No: F039-20016-00220
Reviewer: Gaurav Shil / EVP
Date: 1/14/2005

UNCONTROLLED POTENTIAL EMISSIONS IN TONS PER YEAR

Emission Units	PM	PM10	SO ₂	NO _x	VOC	CO	Highest Single HAP	Combined HAP
Final Finish - Building 656	0.04	0.04	0.00	0.00	42.23	0.00	3.44	5.50
Sub-Assembly - Building 654	0.06	0.06	0.00	0.00	23.72	0.00	1.50	2.09
Natural Gas Combustion - Bld 657	0.14	0.14	0.01	1.82	0.10	1.53	0.030000	0.07
Woodworking - Building 654 (DC1)	62.24	62.24	0.00	0.00	0.00	0.00	0.00	0.00
Woodworking - Building 650 (DC2)	62.24	62.24	0.00	0.00	0.00	0.00	0.00	0.00
Undercoating Bay	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Source Wide Total	124.72	124.72	0.01	1.82	66.05	1.53		7.66
Total Metal Coating PTE	0.077	0.077	0.00	0.00	2.55	0.00	Not Calculated	Not Calculated
Total Wood Coating PTE	0.00	0.00	0.00	0.00	11.88	0.00	Not Calculated	Not Calculated
Total Glass Coating PTE	0.00	0.00	0.00	0.00	0.77	0.00	Not Calculated	Not Calculated
Total Plastic Coating PTE	0.026	0.026	0.00	0.00	50.75	0.00	Not Calculated	Not Calculated

CONTROLLED POTENTIAL EMISSIONS IN TONS PER YEAR

Emission Units	PM	PM10	SO ₂	NO _x	VOC	CO	Highest Single HAP	Combined HAP
Final Finish - Building 656	0.04	0.04	0.00	0.00	42.23	0.00	3.44	5.50
Sub-Assembly - Building 654	0.06	0.06	0.00	0.00	23.72	0.00	1.50	2.09
Natural Gas Combustion - Bld 657	0.14	0.14	0.01	1.82	0.10	1.53	0.03	0.07
Woodworking - Building 654 (DC1)	6.90	6.90	0.00	0.00	0.00	0.00	0.00	0.00
Woodworking - Building 650 (DC2)	6.90	6.90	0.00	0.00	0.00	0.00	0.00	0.00
Undercoating Bay	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Source Wide Total	14.04	14.04	0.01	1.82	66.05	1.53		7.66
Total Metal Coating PTE	0.077	0.077	0.000	0.000	2.547	0.000	Not Calculated	Not Calculated
Total Wood Coating PTE	0.000	0.000	0.000	0.000	11.878	0.000	Not Calculated	Not Calculated
Total Glass Coating PTE	0.000	0.000	0.000	0.000	0.766	0.000	Not Calculated	Not Calculated
Total Plastic Coating PTE	0.026	0.026	0.000	0.000	50.755	0.000	Not Calculated	Not Calculated

Appendix A: Emissions Calculations
VOC and Particulate
Class A - Line 2 (Diesel) Sub Assembly Operations
Moving Building 654 Operations
Company Name: Four Winds International, Inc.
Address City IN Zip: 701 County Road 15, Elkhart, Indiana 46515
FESOP SPR No: F039-2016-00220
Reviewer: Gaurav Shil / EVP
Date: 1/14/2005

Material	Substrate	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (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 day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency*	
WD-40	Metal	6.80	70.00%	0.0%	70.0%	0.0%	30.00%	0.01100	1.000	4.76	4.76	0.05	1.26	0.23	0.02	15.87	75%
TFE Dry Lube	Metal	5.53	99.00%	0.0%	99.0%	0.0%	1.00%	0.00100	1.000	5.47	5.47	0.01	0.13	0.02	0.00	547.47	75%
Spray On Wet Lube	Metal	6.80	80.50%	0.0%	80.5%	0.0%	16.00%	0.00600	1.000	5.47	5.47	0.03	0.79	0.14	0.01	34.21	75%
Spray on Cutting Oil	Metal	7.13	16.00%	0.0%	16.0%	0.0%	84.00%	0.00100	1.000	1.14	1.14	0.00	0.03	0.00	0.01	1.84	75%
Uniplex 260	Metal	10.50	0.00%	0.0%	0.0%	0.0%	100.00%	0.38300	1.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100%
Perfect II Lok Hot Melt Adhesive 34-3182	Wood	8.08	0.00%	0.0%	0.0%	0.0%	100.00%	0.01400	1.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100%
Supertak High Performance Adhesive	Plastic	6.40	49.38%	10.0%	39.4%	7.7%	50.63%	0.35200	1.000	2.73	2.52	0.89	21.29	3.89	0.00	4.98	100%
Supertak Trim Adhesive	Wood	6.16	79.80%	10.0%	69.8%	7.4%	20.20%	0.00300	1.000	4.54	4.30	0.01	0.31	0.06	0.00	21.29	100%
Sta-Put II Aerosol Adhesive	Wood	5.93	79.93%	0.0%	79.9%	0.0%	20.07%	0.02200	1.000	4.74	4.74	0.10	2.50	0.46	0.00	23.62	100%
Russell 676 Adhesive	Plastic	5.72	90.00%	31.7%	58.3%	21.8%	10.00%	0.15700	1.000	4.26	3.33	0.52	12.57	2.29	0.00	33.35	100%
Sta-Put IV H Cylinder Adhesive	Wood	7.81	81.44%	0.0%	81.4%	0.0%	18.56%	0.35500	1.000	6.36	6.36	2.13	51.14	9.33	0.00	34.27	100%
Sta-Put IV H Aerosol Adhesive	Wood	7.96	90.97%	0.0%	90.9%	0.0%	19.03%	0.02200	1.000	6.45	6.45	0.40	9.59	1.75	0.00	33.57	100%
Isopropyl Alcohol - Cleanup	Plastic	6.50	100.00%	1.0%	99.0%	0.8%	0.00%	0.04000	1.000	6.49	6.44	0.26	6.18	1.13	0.00	N/A	100%
Cyclo C99/C100 Starting Fluid	Metal	5.94	93.00%	0.0%	93.0%	0.0%	7.00%	0.00046	1.000	5.52	5.52	0.00	0.06	0.01	0.00	78.92	75%
Cyclo C1/C5 Carb Cleaner	Metal	6.88	100.00%	0.0%	100.0%	0.0%	0.00%	0.00600	1.000	6.88	6.88	0.04	0.99	0.18	0.00	N/A	75%
Cyclo C111 Brake and Parts Cleaner	Metal	6.33	100.00%	20.0%	80.0%	15.2%	0.00%	0.01800	1.000	5.97	5.06	0.09	2.19	0.40	0.00	N/A	75%
Camie 2290 Cleaner	Metal	5.86	99.90%	0.0%	99.9%	0.0%	0.10%	0.04600	1.000	5.85	5.85	0.27	6.46	1.18	0.00	654.14	75%
Methyl Ethyl Ketone	Plastic	6.71	100.00%	0.0%	100.0%	0.0%	0.00%	0.00500	1.000	6.71	6.71	0.03	0.81	0.15	0.00	N/A	100%
Acetone	Plastic	6.61	100.00%	100.0%	0.0%	100.0%	0.00%	0.10700	1.000	N/A	0.00	0.00	0.00	0.00	0.00	N/A	100%
Dynasolve CUS	Plastic	8.83	100.00%	3.0%	97.0%	3.2%	0.00%	0.00300	1.000	8.85	8.57	0.03	0.62	0.11	0.00	N/A	100%
Solvent Blend - Ethanol A-1	Plastic	6.76	100.00%	6.6%	93.4%	6.3%	0.00%	0.08100	1.000	6.67	6.32	0.51	12.28	2.24	0.00	N/A	100%
Spray On OD100 White Lithium Grease	Metal	6.66	63.00%	0.0%	63.0%	0.0%	0.00%	0.00533	1.000	4.20	4.20	0.02	0.54	0.10	0.01	N/A	75%
OSHA Safety Yellow	Metal	6.39	57.90%	0.0%	57.9%	0.0%	15.00%	0.00267	1.000	3.70	3.70	0.01	0.24	0.04	0.01	24.67	75%

Uncontrolled Potential Emissions

5.41 129.96 23.72 0.063

Potential Emissions

Metal Coating

0.528 12.680 2.314 0.063

Potential Emissions

Wood Coating

2.648 63.541 11.596 0.000

Potential Emissions

Plastic Coating

2.239 53.737 9.807 0.000

*The Transfer Efficiencies used in this analysis are based on Appendix A, Technical Support Document for FESOP Renewal 14036

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 hrs/yr) * (1 ton/2000 lbs)
 Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1-Transfer efficiency) * (8760 hrs/yr) * (1 ton/2000 lbs)
 Pounds VOC per Gallon of Solids = (Density (lb/gal) * Weight % organics) / (Volume % solids)
 Total = Worst Coating + Sum of all solvents used

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Material	Substrate	Density (Lb/Gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Benzene	Weight % Ethyl Benzene	Weight % Formaldehyde	Weight % Hexane	Weight % Methanol	Weight % MEK	Weight % MIBK	Weight % Naphthalene	Weight % Styrene	Weight % Toluene	Weight % Xylene	Benzene (ton/yr)	Ethyl Benzene (ton/yr)	Formaldehyde (ton/yr)	Hexane (ton/yr)	Methanol (ton/yr)	MEK (ton/yr)	MIBK (ton/yr)	Naphthalene (ton/yr)	Styrene (ton/yr)	Toluene (ton/yr)	Xylene (ton/yr)	Total HAP (ton/yr)
WD-40	Metal	6.80	0.01100	1.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TFE Dry Lube	Metal	5.53	0.00100	1.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Spray On Wet Lube	Metal	6.80	0.00600	1.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Spray on Cutting Oil	Metal	7.13	0.00100	1.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniplex 260	Metal	10.50	0.38300	1.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Perfect II Lok Hot Melt Adhesive 34-3182	Wood	8.08	0.01400	1.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Supertak High Performance Adhesive	Plastic	6.40	0.35200	1.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Supertak Trim Adhesive	Wood	6.16	0.00300	1.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
Sta-Put II Aerosol Adhesive	Wood	5.93	0.02200	1.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
Russell 676 Adhesive	Plastic	5.72	0.15700	1.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.38
Sta-Put IV H Cylinder Adhesive	Wood	7.81	0.35500	1.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sta-Put IV H Aerosol Adhesive	Wood	7.96	0.06200	1.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Isopropyl Alcohol - Cleanup	Plastic	6.50	0.04000	1.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cyclo C99/C100 Starting Fluid	Metal	5.94	0.00046	1.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cyclo C1/C5 Carb Cleaner	Metal	6.88	0.00600	1.000	0.00%	10.00%	0.00%	0.00%	0.00%	10.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
Cyclo C111 Brake and Parts Cleaner	Metal	6.33	0.01800	1.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.15	0.15
Camie 2290 Cleaner	Metal	5.86	0.04600	1.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Methyl Ethyl Ketone	Plastic	6.71	0.00500	1.000	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.15
Acetone	Plastic	6.61	0.10700	1.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dynasolve CUS	Plastic	8.83	0.00300	1.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Solvent Blend - Ethanol A-1	Plastic	6.76	0.08100	1.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	10.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24
Spray On OD100 White Lithium Grease	Metal	6.66	0.00533	1.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OSHA Safety Yellow	Metal	6.39	0.00267	1.000	0.00%	4.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02

Uncontrolled Potential Emissions

0.02 1.49 0.17 0.24 0.15 0.02 2.09

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

Appendix A: Natural Gas Combustion

Company Name: Four Winds International, Inc.
Address City IN Zip: 701 County Road 15, Elkhart, Indiana 46515
FESOP SPR No: F039-20016-00220
Reviewer: Gaurav Shil / EVP
Date: 1/14/2005

Office Heater (OH1-657)	0.08 MMBTU/Hr
Office Heater (OH2-657)	0.06 MMBTU/Hr
Breakroom Heater (BH1-657)	0.08 MMBTU/Hr
Plant Thermo-Cycler (TC1-657)	0.58 MMBTU/Hr
Plant Thermo-Cycler (TC2-657)	0.58 MMBTU/Hr
Plant Thermo-Cycler (TC3-657)	0.58 MMBTU/Hr
Plant Thermo-Cycler (TC4-657)	0.58 MMBTU/Hr
Plant Thermo-Cycler (TC5-657)	0.58 MMBTU/Hr
Plant Thermo-Cycler (TC6-657)	0.58 MMBTU/Hr
Infrared Heater (IR1-657)	0.125 MMBTU/Hr
Infrared Heater (IR2-657)	0.125 MMBTU/Hr
Undercoat Space Heater (UH1-657)	0.1 MMBTU/Hr
Compressor Room Heater (CR1-657)	0.1 MMBTU/Hr

Heat Input Capacity (MMBtu/hr) 4.150 Potential Throughput (MMCF/yr) 36.35

	Pollutant					
	PM	PM10	SO ₂	NO _x	VOC	CO
Emission Factor (lb/MMCF)	7.6000	7.6000	0.6000	100.000	5.5000	84.0000
Potential To Emit (tons/year)	0.138	0.138	0.011	1.82	0.100	1.53

METHODOLOGY

PTE (tons/year) = Potential Throughput (MMCF/yr) * Emission Factor (lb/MMCF) / 2000 lbs/ton

Organic HAPs

Heat Input Capacity (MMBtu/hr) 4.150 Potential Throughput (MMCF/yr) 36.35

	Pollutant				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor (lb/MMCF)	0.0021	0.0012	0.0750	1.800	0.0034
Potential To Emit (tons/year)	3.82E-05	2.18E-05	1.36E-03	3.27E-02	6.18E-05

METHODOLOGY

PTE (tons/year) = Potential Throughput (MMCF/yr) * Emission Factor (lb/MMCF) / 2000 lbs/ton

Metallic HAPs

Heat Input Capacity (MMBtu/hr) 4.150 Potential Throughput (MMCF/yr) 36.35

	Pollutant				
	Lead	Barium	Chromium	Manganese	Nickel
Emission Factor (lb/MMCF)	0.0005	0.0044	0.0014	0.00038	0.0021
Potential To Emit (tons/year)	9.09E-06	8.00E-05	2.54E-05	6.91E-06	3.82E-05

METHODOLOGY

PTE (tons/year) = Potential Throughput (MMCF/yr) * Emission Factor (lb/MMCF) / 2000 lbs/ton

Appendix A: Process Particulate Emissions

Woodworking Activities - Dust Collector 1 and Dust Collector 2 (DC1 and DC2)

Company Name: Four Winds International, Inc.

Address City IN Zip: 701 County Road 15, Elkhart, Indiana 46515

FESOP SPR No: F039-20016-00220

Reviewer: Gaurav Shil / EVP

Date: 1/14/2005

Emission Unit Description	Outlet Grain Loading (gr/acf)	Control Device Fan Flow Rate (acfm)	PM Control Efficiency (%)	Potential PM Emission Rate				Process Weight Rate (lb/hr)	326 IAC 6-3-2 PM Emission Rate (lb/hr)	Equivalent 326 IAC 6-3-2 PM Emission Rate (tons per year)
				Before Controls (lb/hr)	Before Controls (tons/yr)	After Controls (lb/hr)	After Controls (tons/yr)			
DC1	0.00281	5900	99%	14.21	62.24	0.1421	0.6224	480	1.58	6.90
DC2	0.00281	5900	99%	14.21	62.24	0.1421	0.6224	480	1.58	6.90

Methodology:

* As taken from the FESOP renewal F039-14036-00220, issued on January 7, 2003.

Potential Uncontrolled Emissions (tons/yr) = Outlet Loading (grains/acf) * Fan Flow Rate (acfm) * 1 lb/7,000 grains * 60 min/hr * 8760 hr/yr * 1 ton/2,000 lbs

Potential Controlled Emissions (tons/yr) = Outlet Loading (grains/acf) * Fan Flow Rate (acfm) * 1 lb/7,000 grains * 60 min/hr * 8760 hr/yr * 1 ton/2,000 lbs * (1 - Control Efficiency)

Total PM is assumed equal to PM-10.

The allowable PM emission rate pursuant to 326 IAC 6-3-2(c), Process Operations, for weight rates up to 60,000 lb/hr is determined using the following formula:

$$E = 4.1 * P^{0.6} \quad \text{where:} \quad E = \text{allowable PM emission rate (lb/hr)}$$

$$P = \text{process weight rate (tons/hr)}$$

**Appendix A: Emissions Calculations
VOC and Particulate**

Class A - Line 2 (Diesel) Undercoating Bay

**Company Name: Four Winds International, Inc.
Address City IN Zip: 701 County Road 15, Elkhart, Indiana 46515
FESOP SPR No: F039-20016-00220
Reviewer: Gaurav Shil / EVP
Date: 1/14/2005**

Material	Substrate	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (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*
Undercoating	Metal	8.30	56.27%	56.27%	0.00%	56.0%	44.00%	3.58000	1.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100%

Uncontrolled Potential Emissions

- - - -

Potential Emissions Metal Coating

- - - -

***High Pressure Flow Coat Application**

Undercoating is a Daubert Chemical. It is described as water emulsified asphalt corrosion barrier suitable for ferrous and nonferrous metals and contains "zero" VOCs.

Best Available Control Technology (BACT) Determination

Source Background and Description

Source Name:	Four Winds International, Inc.
Source Location:	701 CR 15, Elkhart, IN 46516
County:	Elkhart
SIC Code:	3716
Operation Permit No.:	F039-14026-00220
Operating Permit Revision No.:	F039-20016-00220
Operation Permit Issuance Date:	January 7, 2003
Permit Reviewer:	Gaurav Shil / EVP

The Indiana Department of Environmental Management (IDEM) has performed the following BACT review for a major modification to an existing motor home/recreational vehicle manufacturing source owned and operated by Four Winds International, Inc. (FWI), located in Elkhart, Indiana. FWI currently operates three (3) motor home product lines. This modification will permit the construction of a new building (Building 657) to be used for housing operations that construct Class A diesel powered (Line 2) motor homes. These operations are currently located throughout other buildings in the FWI complex. The operations that will be relocated include sub-assembly operations conducted in Building 654 (A2SA) and final finish operations conducted in Building 656 (A2FF). The woodworking operations conducted in Buildings 650 and 654 will be relocated to the new building. The production rates on the Class A – Line 2 (Diesel Pusher Line) will be modified from the existing rate of 0.75 units per hour to the new rate 1.0 units per hour. Pursuant to this approval miscellaneous space heating equipment, two (2) dust collection systems, and an undercoating bay will also be added to the new building.

The source is located in Elkhart County which is designated as nonattainment for the 8-hour ozone standard and attainment or unclassifiable for all other criteria pollutants. Based upon emission calculations completed by IDEM and the source, the modification shall result in a net increase of potential volatile organic compound (VOC) emissions of greater than twenty-five (25) tons per year. Therefore, pursuant to 326 IAC 8-1-6 the source shall reduce VOC emissions from the new facilities, which are not regulated by other provisions of 326 IAC 8, using best available control technology (BACT). The purpose of this BACT Analysis is to evaluate the level of control that constitutes BACT for the affected facilities.

Pursuant to FESOP Renewal No. F039-14036-00220, issued on January 7, 2003, the Permittee limited the VOC input to the Class A - Line 2 coating facilities A2FF and A2SA to less than 25 tons per year such that the requirements of 326 IAC 8-1-6 did not apply. This condition was required to render 326 IAC 8-1-6, General Provisions Relating to VOC Rules; General Reduction Requirements for New Facilities not applicable. With this revision FWI is proposing the construction of a new building on a site contiguous to the location of the existing manufacturing complex. The proposed construction site is located on Middleton Run Road and it adjoins the FWI complex to the west. The new building (to be given the designation of "Building 657") will house the production of Class A diesel powered (Line 2) motor homes. Currently, Sub-Assembly (A2SA) operations are conducted in Building 654, Final Finish (A2FF) operations are conducted in Building 656, and some woodworking and plastics machining (routing) is conducted in Buildings 650 and 654. The goal of this project is to consolidate all of these operations into the proposed Building 657. As a result of this change, the production rate is expected to increase from the current rate of 0.75 unit(s) per hour to 1.0 unit(s) per hour. The potential to emit ("PTE") of volatile organic compounds ("VOC") will increase from 24.79 tons per year ("TPY") to 65.95 TPY. Therefore, to comply with condition D.1.2(b) of the existing Federally Enforceable State Operating Permit ("FESOP") F039-14036-00220 and the requirements of 326 IAC 8-1-6, FWI is submitting this Best Available Control Technology ("BACT") Analysis. Of the projected 65.95 TPY PTE, only 50.75 TPY is subject to BACT with the remaining 15.2 TPY elsewhere regulated by 326 IAC Rule 8.

The operations conducted at the source begin with a vehicle chassis that contains a passenger cab with no vehicle body. Several processes are undertaken for the purpose of constructing the body of the vehicle that ultimately becomes the motor home. The processes include some woodworking operations to produce floor and roof frames and cabinets, a minor amount of metal coating in the form of touchup operations, wood flat panel coating to produce sidewalls, and a minor amount of wood surface coating for touchup. Each of the processes are regulated either by rules pertaining to the emissions of particulate matter (326 IAC 6) or are elsewhere regulated by other 326 IAC 8 rules. Therefore, these operations are not considered as a part of this analysis.

The remaining operations consist of sub-assembly and final finish stages. During the assembly process and the preparation stage for delivery of the motor homes to customers, small quantities of materials containing volatile organic compounds (VOC) are used. These materials consist of hand and aerosol applied adhesives, touchup paints, wiping solvents, and lubricants. The applications of these products, when applied to wood, are regulated under 326 IAC 8-2-12, Wood Furniture and Cabinet Coating. The applications of the products, when applied to metal, would be subject to 326 IAC 8-2-9, Miscellaneous Metal Coating Operations, except that the potential to emit (PTE) for the coating of metal is less than 15 pounds of VOC per day (specifically excluded).

Therefore, this analysis has focused on the application of the above mentioned materials when they are applied to non-wood and non-metal substrates. The remaining substrates consist predominantly of plastic and fiberglass. In the case where a product is used exclusively for wood or metal, this product has been excluded from the emissions estimates for control analysis. In the case where a material can be used on wood or metal but may also be used on any other substrate, the material was included in the estimation of emissions for the control analysis.

The specific facilities requiring evaluation in this analysis include:

1. Class A, Line 2, (Diesel Powered) Sub-Assembly Operations (A2SA)
2. Class A, Line 2, (Diesel Powered) Final Finish Operations (A2FF)

Presently, the sub-assembly operations for Class A, Line 2 production (diesel powered – A2SA) are conducted in Building 654 and the final finish operations for Class A, Line 2 (diesel powered – A2FF) are conducted in Building 656.

IDEM conducts BACT analyses in accordance with the *“Top-Down” Best Available Control Technology Guidance Document* outlined in the 1990 draft USEPA *New Source Review Workshop Manual*, which outlines the steps for conducting a top-down BACT analysis. The steps are discussed as follows:

1. Identify all potentially available control options

The first step in evaluating potential applicable control technologies involved a review of control technology determinations made for permitted motor home/recreational vehicle manufacturing sources. The USEPA's RACT /BACT /LAER clearinghouse (RBLC) database was searched for the purpose of identifying comparable sources that have implemented BACT for the affected facilities. This search was performed in the following steps:

- (1) A search was first conducted by the same SIC Code as for the source (3716). Two (2) motor home manufacturing sources were identified in the RBLC database. Both of the sources that were identified performed a BACT Analysis for the purpose of analyzing their exterior painting operations. The two (2) sources each paint the exteriors of their motor homes utilizing automotive (OEM) coatings. FWI does not paint the exterior of its motor homes. Since this type of surface coating operation is not representative of the subject facilities at the FWI source, these two sources were excluded from the list of comparable sources. The two (2) sources were identified as CDI, LLC and the Monaco Coach Corporation. A further review of the Monaco Coach Corporation BACT Analysis revealed that this source had specifically excluded miscellaneous coatings in their analysis because of their inability to capture the resulting

emissions. The miscellaneous coatings described in the Monaco BACT Analysis are the same type of coatings specifically addressed in this BACT Analysis for the FWI facility.

- (2) Utilizing EPA's Volume II, Chapter 14, Appendix D, Uncontrolled Emission Factor Listing for Criteria Air Pollutants, the SIC Code of 3716 was cross referenced to the listing of representative Source Classification Codes (SCC). The resulting list of SCC's that were identified was used as the search criteria for the RBLC database. As a result of the SCC search, three (3) of the SCC's yielded no facilities at all. These included 4-02-006, 4-02-003, and 4-02-900. One (1) source was identified under SCC 4-02-009 and two (2) sources were identified under SCC 4-002-001. The source identified under SCC 4-02-009 was Saturday Knight Ltd. in Hamilton, OH. This source performs silk screen printing of vinyl film. The sources identified under SCC 4-002-001 were Tri-Tech Graphics, Inc. and Up-right, Inc. in Fresno, CA. Tri-Tech Graphics, Inc. performs fabric screen printing and Up-right, Inc. does performance coating of metal air compressor tanks. Therefore, the above identified sources were determined not to be representative of the FWI source operations. The final SCC of 4-02-007 yielded a total of four (4) sources: Delta Plastics (San Joaquin, CA), Holtz Rubber Company, Inc. (San Joaquin, CA), Carpenter Co. (San Joaquin, CA), and Deckers Co. (Santa Barbara, CA). The pollutant of concern in the analysis of Deckers, Co. was reactive organic gas that is not representative of the pollutant of concern for FWI operations (VOC). The substrate in the analysis of Carpenter Co. was foam cushion that is not representative of the substrate for FWI operations. Delta Plastics and Holtz Rubber Company were selected for analysis since these two sources conducted similar operations.
- (3) Finally, a RBLC search was conducted specifically searching for assembly operations. Ultimately, of the sources identified, one of the same operations of two (2) General Motors assembly plants (purge, cleanup solvent, wiping solvent) and two (2) operations of a Cooper Tire plant (primer and adhesive application) were selected. The remaining sources were determined not to represent the FWI facility because either the materials used or the operations conducted and substrates were not similar. For example, several of the General Motors operations were excluded as they involved OEM surface coating.

2. Eliminate technically infeasible control options

The following table identifies the approved methods of achieving BACT:

Data Search Criteria	Facility Name	Process or Facility	BACT Determination	Basis
SCC 4-02-007	Delta Plastics	Spray Application of Contact Adhesives - Plastic	Low VOC Coating [4.5 Lb VOC/Gal]	BACT-Other
Assembly Operations	Cooper Tire & Rubber	Adhesive Usage, Facility - Spray - Rubber & Plastic	Low VOC Coating [7.13 Lb VOC/Gal]	BACT-PSD
SCC 4-02-007	Holtz Rubber Company, Inc.	Brush Application of Adhesives - Rubber & Plastic	Process Limit [Adhesive VOC Content <7.0 Lb VOC/gal]	LAER
Assembly Operations	Cooper Tire & Rubber	Primer Usage, Facility - Spray - Rubber & Plastic	Low VOC Coating [6.12 Lb VOC/Gal]	BACT-PSD
Assembly Operations	General Motors	Purge, Cleanup Solvents, Wipedown Solvents	Overall Emission Limitation [215.2 TPY VOC, 112 TPY Acetone, 20 TPY 7440-62-2] w/Process Capture	BACT-PSD
Assembly Operations	General Motors	Purge, Cleanup Solvents, Wipedown Solvents	Overall Emission Limitation w/Process Capture	BACT-PSD

Data Search Criteria	Facility Name	Process or Facility	BACT Determination	Basis
Assembly Operations	Four Winds International	Adhesive usage - Plastic	Low VOC Coating [3.33 Lb VOC/Gal]	BACT-326 IAC 8-1-6
Assembly Operations	Four Winds International	Paint or primer coating usage - Plastic	Low VOC Coating [5.19 Lb VOC/Gal]	BACT-326 IAC 8-1-6

Based on the information summarized above, only the use of low VOC Coatings and/or best management practices (BMP), without using any control device, were the determined methods of achieving BACT. In reviewing the VOC coating content of the subject materials used at the FWI facility, it was determined that the coatings used by FWI meet or have a lower VOC content than those used at other BACT sources. This comparison was done based on the material classification (adhesive, paint/primer or solvent cleaner). Adhesives used at FWI have VOC coating content (< 3.33 lb/gal) which is lower than the VOC coating content of adhesives used at Delta Plastics (4.5 lb/gal). Paint/Primer used at FWI have VOC coating content (<5.19 lb/gal) which is lower than the VOC coating content of paint/primer used at Cooper Tire & Rubber (6.12 lb/gal). FWI does not use any adhesive and paint/primer when applied to plastic substrates with VOC content greater than 3.33 lbs/gallon and 5.19 lbs/gallon, respectively. Also as a condition of its operating permit, FWI already utilizes BMP for the reduction of solvent emissions and has a source wide enforceable emissions limitation. Therefore, further investigation into material substitution was determined to be unnecessary.

Although no similar sources or sources with similar operations were identified as using any type of add-on control device, FWI explored utilizing the following two control methods of VOC abatement:

- (1) Rotary concentrator in combination with catalytic oxidation having 95% destruction efficiency.
- (2) Rotary concentrator in combination with regenerative/recuperative thermal oxidation system having 95% destruction efficiency.

The control devices would have to meet the following criteria:

- (1) Capture of the VOC for the purpose of efficient conveyance to the control device

The subject materials will be used throughout all stages of the assembly and final finish operations or in other words at all stations. Some of the stations will utilize overhead cranes for the purpose of lifting floors, walls, and roofs into place. Other stations must have access to large parts such as tubs, showers, and cabinets during the assembly stages. Because of the process interactions that will take place, utilizing a booth for these assembly and final finish operations will be technically infeasible. Further, a booth will not address the collection of VOC from materials used inside of units that are completely enclosed. Likewise, utilizing a control device for an entire building, while being technically feasible, will be cost prohibitive based upon FWI's past experience. Additionally, an entire source control device would not guarantee efficient collection of VOC as vehicles are continuously entering and exiting the buildings through overhead doors.

Therefore, it was determined that portable collection devices should be considered to capture VOC. A fixed or stationary collection device was determined to be technically infeasible. This is because it would not address the inside of units that are completely enclosed and the size that would be required for each station would inhibit production. The motor homes range from 28 to 40 feet long and ten (10) to 12 feet high and therefore, any collection device would need to address the overall dimensions of the units.

Each building would need to be equipped with a central ventilation system to address the overall dimensions of the units. At each work station, flexible hoses mounted to electric retractable reels would need to be installed. Because of the flammability of the solvents used, the hose reels would need to be equipped with explosion proof motors. Additionally, the hoses would need to be chemically resistant as well. There will be a total of 36 work stations throughout building 657 that

would need to be equipped with these devices. Each device would need to be equipped with a hose estimated to be at least 50 feet long considering the dimensions of the units and the height of the building. Typical capture efficiencies range from 75% to 85% for the above systems. For the purpose of this BACT Analysis, a capture efficiency of 80% was used.

3. Rank remaining control technologies by control effectiveness

There are two technically feasible approaches for controlling VOC emissions from the FWI operations:

Options for VOC Control	Overall VOC control efficiency
Rotary concentrator in combination with catalytic oxidation	76 %
Rotary concentrator in combination with regenerative/recuperative thermal oxidation	76 %

(1) Regenerative/recuperative thermal oxidation is estimated to provide 80% capture efficiency and 95% destruction efficiency.
 (2) Catalytic oxidation is estimated to provide 80% capture efficiency and 95% destruction efficiency.

4. Evaluate the most effective controls and document results

FWI provided IDEM with a thorough economic analysis of the technically feasible control options. The analysis estimated the cost of the VOC control equipment, including the initial capital cost of the various components intrinsic to the complete system, and the estimated annual operating costs. The estimated total capital cost was calculated with the use of a factoring method of determining direct and indirect installation costs. The basic equipment costs were obtained from vendor's quoted prices. Annualized costs were developed based on information from the vendors and a literature review. The analysis assumed an interest rate of 5% and an equipment life of 10 years. The basis of cost effectiveness, used to evaluate the control options, is the ratio of the annualized cost to the amount of VOC (tons) removed per year. Note that the cost effectiveness of each option only accounts for the portion of VOC removed by the add-on controls. A summary of the cost figures determined in the analysis is provided in the table below:

Process	Total Capital Cost (\$)	Total Operating Cost (\$/yr)	Total Annualized Costs (\$/yr)	VOC removal from add-on control (tpy)	Cost Effectiveness (\$/ton VOC removed)
Building 657 Class A, Line 2 (A2SA & A2FF) - Recuperative & Regenerative Oxidation	910,332	227,870	485,137	38.6	12,578
Building 657 Class A, Line 2 (A2SA & A2FF) - Catalytic Oxidation	782,959	237,708	473,384	38.6	12,273

Based on the cost analysis, regenerative/recuperative oxidation and catalytic oxidation, with an annual cost of greater than \$12,200 per ton of VOC removed are economically infeasible. Moreover no similar sources or sources with similar operations were identified as using any type of add-on control device. Therefore, no control with the use of low VOC coatings and the following methods currently used by FWI to minimize VOC emissions shall be the best feasible BACT:

1. When applying adhesives to plastic substrates, no coating shall be used with a VOC content of greater than 3.33 pounds of VOC per gallon of coating as applied.
2. When applying paints or primer coatings to plastic substrates, no coating shall be used with a VOC content of greater than 5.19 pounds of VOC per gallon of coating as applied.

3. All containers of solvents or solutions shall be kept closed when not in actual use except during product transfers to minimize evaporation.
4. All waste materials including spent wiping rags and spent solvents shall be stored in closed containers at all times except during product transfers to minimize solvent evaporation.
5. Unless prepackaged by the manufacturer and intended for use as an aerosol or atomized product, all solvents or solutions used shall be hand or manually applied. Hand or manual application shall include the use of cloths or wipes, including the use of handheld and hand actuated application spray bottles. No solvents or solutions shall be spray applied or applied in a manner that causes excessive atomization or promotes excessive evaporation.
6. Waste solvents or solutions shall not be disposed by allowing products to evaporate.
7. Solvent containing rags shall not be allowed to air dry to allow for reuse.

Compliance with the above limits and conditions will satisfy the requirements of 326 IAC 8-1-6.