



Mitchell E. Daniels, Jr.  
Governor

Thomas W. Easterly  
Commissioner

100 North Senate Avenue  
Indianapolis, Indiana 46204  
MC 61-53 IGCN 1003  
(317) 232-8603  
(800) 451-6027  
www.IN.gov/idem

TO: Interested Parties / Applicant

DATE: November 1, 2007

RE: Heritage Wood Designs, LLC / 039-25300-00669

FROM: Nisha Sizemore  
Chief, Permits Branch  
Office of Air Quality

### Notice of Decision: Approval - Registration

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 4-21.5-3-4(d) this order is effective when it is served. When served by U.S. mail, the order is effective three (3) calendar days from the mailing of this notice pursuant to IC 4-21.5-3-2(e).

If you wish to challenge this decision, IC 4-21.5-3-7 requires that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, 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  
FN-REGIS.dot 03/23/06



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

*We make Indiana a cleaner, healthier place to live.*

Mitchell E. Daniels, Jr.  
Governor

Thomas W. Easterly  
Commissioner

100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251  
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November 1, 2007

Calvin J. Mullet  
Heritage Wood Designs, LLC  
13320 County Road,  
Middlebury, Indiana 46540

Re: Registered Construction and Operation Status,  
039-25300-00669

Dear Mr. Mullet:

The application from Heritage Wood Designs, LLC, received on September 18, 2007 has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-5.5, it has been determined that the following stationary wood cabinet manufacturing source located at 13320 County Road, Middlebury, Indiana 46540, is classified as registered:

- (a) One (1) surface coating booth, identified as SB01, constructed in August 21, 2006, using high volume low pressure (HVLV) spray applicator, with a maximum capacity of 0.05 of wood cabinet per hour, using dry filters as control, and exhausting to stack vent SVSB01.
- (b) One (1) wood working operation, consisting of sanders, saws, shapers, routers, boring machines, identified as WW1, constructed in August 21, 2006, with a maximum capacity of 0.05 of wood cabinet per hour, using dust collector (DC1) as control, and exhausting to general ventilation in the building.
- (c) One (1) diesel-fired generator, identified as DG01, installed in August 21, 2006, with a maximum capacity of 0.41 MMBtu/hr (160 horsepower) and exhausting to stack vent SVDG01.
- (d) One (1) propane-fired heater, identified as H01, installed in August 21, 2006, with a maximum heat input rate of 155,000 Btu/hr and exhausting to stack vent SVH01.

The following conditions shall be applicable:

- (a) 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)
  - (1) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the woodworking facilities shall not exceed 0.551 pounds per hour when operating at a process weight rate of less than one hundred (100) pounds per hour.
  - (2) Pursuant to 326 IAC 6-3-2(d), the following requirements apply to the surface coating booth:
    - (A) Particulate emissions from the surface coating booth shall be controlled by dry filters and the source shall operate the control device in accordance with manufacturer's specifications.

- (B) If overspray is visibly detected at the exhaust or accumulates on the ground, the source shall inspect the control device and do either of the following no later than four (4) hours after such observation:
    - (i) Repair control device so that no overspray is visibly detectable at the exhaust or accumulates on the ground.
    - (ii) Operate equipment so that no overspray is visibly detectable at the exhaust or accumulates on the ground.
  - (C) If overspray is visibly detected, the Permittee shall maintain a record of the action taken as a result of the inspection, any repairs of the control device, or change in operations, so that overspray is not visibly detected at the exhaust or accumulates on the ground. These records must be maintained for five (5) years.
- (b) 326 IAC 8-2-12 (Wood Furniture and Cabinet Coating)

Pursuant to 326 IAC 8-2-12 (Wood Furniture and Cabinet Coating), an owner or operator of a wood furniture or cabinet coating operation shall apply all coating material, with the exception of no more than ten (10) gallons of coating per day used for touch-up and repair operations using one (1) of the following application methods:

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

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

- (c) 326 IAC 5-1-2 (Opacity Limitations)
- Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following:
- (1) Opacity shall not exceed an average of twenty percent (20%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
  - (2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

(d) 326 IAC 6-4 (Fugitive Dust Emissions)

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

(e) Pursuant to 40 CFR 60.4204(a), the owner and operator of this source shall comply with the following emission standards in table 1.

**Table 1 to Subpart IIII of Part 60—Emission Standards for Stationary Pre-2007 Model Year Engines With a Displacement of <10 Liters per Cylinder and 2007–2010 Model Year Engines >2,237 KW (3,000 HP) and With a Displacement of <10 Liters per Cylinder**

[As stated in §§60.4201(b), 60.4202(b), 60.4204(a), and 60.4205(a), you must comply with the following emission standards]

Maximum engine power	Emission standards for stationary pre-2007 model year engines with a displacement of <10 liters per cylinder and 2007–2010 model year engines >2,237 KW (3,000 HP) and with a displacement of <10 liters per cylinder in g/KW-hr (g/HP-hr)				
	NMHC + NO <sub>x</sub>	HC	NO <sub>x</sub>	CO	PM
KW<8 (HP<11)	10.5 (7.8)			8.0 (6.0)	1.0 (0.75)
8≤KW<19 (11≤HP<25)	9.5 (7.1)			6.6 (4.9)	0.80 (0.60)
19≤KW<37 (25≤HP<50)	9.5 (7.1)			5.5 (4.1)	0.80 (0.60)
37≤KW<56 (50≤HP<75)			9.2 (6.9)		
56≤KW<75 (75≤HP<100)			9.2 (6.9)		
75≤KW<130 (100≤HP<175)			9.2 (6.9)		
130≤KW<225 (175≤HP<300)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)

This registration is the first air approval issued to this source. The source may operate according to 326 IAC 2-5.5.

An authorized individual shall provide an annual notice to the Office of Air Quality that the source is in operation and in compliance with this registration pursuant to 326 IAC 2-5.5-4(a)(3). The annual notice shall be submitted to:

Compliance Data Section  
 Office of Air Quality  
 100 North Senate Avenue  
 MC 61-53 IGCN 1003  
 Indianapolis, IN 46204-2251

no later than March 1 of each year, with the annual notice being submitted in the format attached.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source. If you have any questions on this matter, please contact Renee Traivaranon, OAQ, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251, at 317-234-5615 or at 1-800-451-6027 (ext 4-5615).

Sincerely,

Original signed by Irene Calilung

Nisha Sizemore, Chief  
Permits Branch  
Office of Air Quality

rt

Enclosures - Notice of Decision, TSD, Appendix A

cc: File - Elkhart County  
Elkhart County Health Department  
Air Compliance Section - Paul Karkiewicz  
IDEM Northern Regional Office  
Permits Administrative and Development  
Billing, Licensing and Training Section – Dan Stamatkin

<b>Registration Annual Notification</b>
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This form should be used to comply with the notification requirements under 326 IAC 2-5.5-4(a)(3)

<b>Company Name:</b>	<b>Heritage Wood Designs, LLC</b>
<b>Address:</b>	<b>13320 County Road, Middlebury, Indiana 46540</b>
<b>Phone #:</b>	<b>(574) 825-4700</b>
<b>Registration #:</b>	<b>039-25300-00669</b>

<b>Certification by the Authorized Individual</b>
I hereby certify that <b>Heritage Wood Designs, LLC</b> is still in operation and is in compliance with the requirements of Registration <b>039-25300-00669</b> .
<b>Name (typed):</b>
<b>Title:</b>
<b>Signature:</b>
<b>Phone Number:</b>
<b>Date:</b>

# Indiana Department of Environmental Management Office of Air Quality

## Technical Support Document (TSD) for a Registration

### Source Background and Description

**Source Name:** Heritage Wood Designs, LLC  
**Source Location:** 13320 County Road, Middlebury, Indiana 46540  
**County:** Elkhart  
**SIC Code:** 2431  
**Application No.:** 039-25300-00669  
**Reviewer:** Renee Traivaranon

On September 18, 2007, the Office of Air Quality (OAQ) received an application from Heritage Wood Designs, LLC relating to the construction and operation of a stationary wood cabinet manufacturing source.

### Unregistered Emission Units and Pollution Control Equipment

The application includes information relating to the operation of the following equipment:

- (a) One (1) surface coating booth, identified as SB01, constructed in August 21, 2006, using high volume low pressure (HVLV) spray applicator, with a maximum capacity of 0.05 of wood cabinet per hour, using dry filters as control, and exhausting to stack vent SVSB01.
- (b) One (1) wood working facility, consisting of sanders, saws, shapers, routers, boring machines, identified as WW1, constructed in August 21, 2006, with a maximum capacity of 0.05 of wood cabinet per hour, using dust collector (DC1) as control, and exhausting to general ventilation in the building.
- (c) One (1) diesel-fired generator, identified as DG01, installed in August 21, 2006, with a maximum capacity of 0.41 MMBtu/hr (160 horsepower) and exhausting to stack vent SVDG01.
- (d) One (1) propane-fired heater, identified as H01, installed in August 21, 2006, with a maximum heat input rate of 155,000 Btu/hr and exhausting to stack vent SVH01.

There are no new emissions units at the source during this review. There are also no permitted emissions units at the source during this review.

### Existing Approvals

This is the first air approval issued to this source.

### Enforcement Issues

IDEM is aware that equipment has been constructed and operated prior to receipt of the proper permit. IDEM is reviewing this matter and will take the appropriate action.

### Recommendation

The staff recommends to the Commissioner that the application be approved as a registration. This recommendation is based on the following facts and conditions:

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

An application for the purposes of this review was received on September 18, 2007.

**Emission Calculations**

See Appendix A of this TSD for emissions calculations (Appendix A, pages 1 through 6).

**Potential To Emit Before Controls**

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

Pollutant	Potential To Emit (tons/year)
PM	17.3
PM-10	17.3
SO <sub>2</sub>	1.0
NO <sub>x</sub>	0.4
VOC	9.2
CO	0.09
Worst Single HAP	2.05 (Toluene)
Combined HAPs	4.73

- (a) The PTE (as defined in 326 IAC 2-1.1-1(16)) of regulated criteria pollutants are less than twenty-five (25) tons per year, but the PTE of particulate matter (PM or PM-10) is greater than five (5) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-5.5. A registration will be issued.
- (b) The PTE (as defined in 326 IAC 2-1.1-1(16)) of any single HAP is less than ten (10) tons per year and the PTE of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.

**County Attainment Status**

The source is located in Elkhart County.

Pollutant	Status
PM2.5	Attainment
PM10	Attainment
SO <sub>2</sub>	Attainment
NO <sub>x</sub>	Attainment
8-Hour Ozone	Attainment
CO	Attainment
Lead	Attainment

Note: On September 6, 2007 the Indiana Air Pollution Control Board finalized a temporary emergency rule to redesignate Elkhart as attainment for the 8-hour ozone standard.

- (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 emissions and NOx emissions are considered when evaluating the rule applicability relating to ozone. Elkhart County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability – Entire Source section.
- (b) Elkhart County has been classified as unclassifiable or attainment for PM2.5. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM 2.5 emissions. Therefore, until the U.S. EPA adopts specific provisions for PSD review for PM2.5 emissions, it has directed states to regulate PM10 emissions as a surrogate for PM2.5 emissions.
- (c) Elkhart County has been classified as attainment or unclassifiable for other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability – Entire Source section.
- (d) Fugitive Emissions  
Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive emissions are not counted toward determination of PSD or Emission Offset applicability.

**Source Status**

Existing Source PSD Definition (emissions after controls, based on 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/yr)
PM	17.3
PM-10	17.3
SO <sub>2</sub>	1.0
NO <sub>x</sub>	0.4
VOC	9.2
CO	0.09
Worst Single HAP	2.05 (Toluene)
Combination HAPs	4.73

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

**Part 70 Permit Determination**

326 IAC 2-7 (Part 70 Permit Program)

This source is not subject to the Part 70 Permit requirements because the PTE of:

- (a) each criteria pollutant is less than 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
- (c) any combination of HAPs is less than 25 tons/year.

This is the first air approval issued to this source.

**Federal Rule Applicability**

- (a) The requirements of Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, 326 IAC 12, (40 CFR 60, Subpart IIII), apply to the diesel-fired generator (DG01) installed in August 21, 2006 with a maximum capacity of 0.41 MMBtu/hr (160 HP) because the diesel generator is installed after July 11, 2005, prior to August 21, 2006 and it is not a fire pump engine. Pursuant to 40 CFR 60.4204(a), the owner and operator of this source shall comply with the following emission standards in table 1.  
**Table 1 to Subpart IIII of Part 60—Emission Standards for Stationary Pre-2007 Model Year Engines With a Displacement of <10 Liters per Cylinder and 2007–2010 Model Year Engines >2,237 KW (3,000 HP) and With a Displacement of <10 Liters per Cylinder**

[As stated in §§60.4201(b), 60.4202(b), 60.4204(a), and 60.4205(a), you must comply with the following emission standards]

Maximum engine power	Emission standards for stationary pre-2007 model year engines with a displacement of <10 liters per cylinder and 2007–2010 model year engines >2,237 KW (3,000 HP) and with a displacement of <10 liters per cylinder in g/KW-hr (g/HP-hr)				
	NMHC + NO <sub>x</sub>	HC	NO <sub>x</sub>	CO	PM
KW<8 (HP<11)	10.5 (7.8)			8.0 (6.0)	1.0 (0.75)
8≤KW<19 (11≤HP<25)	9.5 (7.1)			6.6 (4.9)	0.80 (0.60)
19≤KW<37 (25≤HP<50)	9.5 (7.1)			5.5 (4.1)	0.80 (0.60)
37≤KW<56 (50≤HP<75)			9.2 (6.9)		
56≤KW<75 (75≤HP<100)			9.2 (6.9)		
75≤KW<130 (100≤HP<175)			9.2 (6.9)		
130≤KW<225 (175≤HP<300)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)

- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAP)(326 IAC 14, 20 and 40 CFR Part 61, 63) included for this source.

The requirements of the National Emission Standards for Wood Furniture Manufacturing Operations, 326 IAC 20, (40 CFR Part 63, Subpart JJ), are not included for this source because the source is not a major source for Hazardous Air Pollutants (HAPs); the potential to emit of single HAP is less than 10 tons per year and the potential to emit of combined HAPs is less than 25 tons per year.

**State Rule Applicability - Entire Source**

326 IAC 2-2 (Prevention of Significant Deterioration (PSD))

This source is not one of the 28 listed source categories defined in 326 IAC 2-2-1(gg)(1), and no attainment pollutant is emitted at a rate of 250 tons per year or greater. Therefore, the requirements of 326 IAC 2-2 (PSD) are not applicable.

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

The requirements of 326 IAC 2-4.1 are not applicable to this source, since the potential to emit of any

single HAP is less than ten (10) tons per year and the potential to emit of a combination of HAPs is less than twenty-five (25) tons per year.

**326 IAC 2-6 (Emission Reporting)**

This source is located in Elkhart County, has the potential to emit of each criteria pollutant of less than hundred (100) tons per year and the potential to emit lead of less than five (5) tons per year. Therefore, the requirements of 326 IAC 2-6 do not apply.

**326 IAC 5-1 (Opacity Limitations)**

Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following:

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

**326 IAC 6-4 (Fugitive Dust Emissions)**

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

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

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

**326 IAC 7-1.1-1 (Sulfur dioxide emission limitations: applicability)**

The source is not subject to the requirements of 326 IAC 7-1.1, because the potential to emit of all emission units are less than twenty-five (25) tons per year or ten (10) pounds per hour of sulfur dioxide.

**326 IAC 8-11 (Wood Furniture Coating)**

326 IAC 8-11 (Wood Furniture Coating) does not apply to this source because this source is not located in Lake, Porter, Clark, or Floyd Counties. This source is located in Elkhart County.

**326 IAC 10-1 (Nitrogen Oxides Control)**

The source is not subject to 326 IAC 10 (Nitrogen Oxides Control) because the source is not located in Clark or Floyd Counties.

**State Rule Applicability - Individual Facilities**

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

- (a) The requirements of 326 IAC 6-3 do not apply to the propane-fired heater and the diesel-fired generator because they are not considered parts of manufacturing processes.
- (b) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the woodworking facilities shall not exceed 0.551 pounds per hour when operating at a process weight rate of less than one hundred (100) pounds per hour.

- (c) Pursuant to 326 IAC 6-3-2(d), the following requirements apply to the surface coating booth:
- (1) Particulate emissions from the surface coating booth shall be controlled by dry filters and the source shall operate the control device in accordance with manufacturer's specifications.
  - (2) If overspray is visibly detected at the exhaust or accumulates on the ground, the source shall inspect the control device and do either of the following no later than four (4) hours after such observation:
    - (i) Repair control device so that no overspray is visibly detectable at the exhaust or accumulates on the ground.
    - (ii) Operate equipment so that no overspray is visibly detectable at the exhaust or accumulates on the ground.
  - (3) If overspray is visibly detected, the Permittee shall maintain a record of the action taken as a result of the inspection, any repairs of the control device, or change in operations, so that overspray is not visibly detected at the exhaust or accumulates on the ground. These records must be maintained for five (5) years.

#### 326 IAC 8-2-12 (Wood Furniture and Cabinet Coating)

326 IAC 8-2-12 (Wood Furniture and Cabinet Coating) applies to this source because it was constructed after July 1, 1990 and has actual emissions greater than fifteen (15) pounds of VOC per day before add-on controls. Pursuant to this rule, an owner or operator of a wood furniture or cabinet coating operation shall apply all coating material, with the exception of no more than ten (10) gallons of coating per day used for touch-up and repair operations, using one (1) of the following application methods:

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

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

#### Conclusion

The operation of this source shall be subject to the conditions of the attached registration, No. 039-25300-00669.



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

**Company Name: Heritage Wood Designs, LLC  
Address City IN Zip: 13320 County Road, Middlebury, Indiana 46540  
Permit Number: 039-25300-00669  
Permit Reviewer: Renee Traivaranon  
Date: October 18, 2007**

Material	Density (Lb/Gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Xylene	Weight % Toluene	Weight % MIBK	Weight % Methanol	Weight % Ethylbenzene	Xylene Emissions (ton/yr)	Toluene Emissions (ton/yr)	MIBK Emissions (ton/yr)	Methanol Emissions (ton/yr)	Ethylbenzene Emissions (ton/yr)
4002 FC Stain	7.0	0.50	0.050	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00
HC 40 Sealer/Topcoat	7.6	5.00	0.050	20.70%	9.90%	0.00%	9.90%	1.00%	1.72	0.82	0.00	0.82	0.08
Blender 2739	7.0	1.00	0.050	0.00%	55.00%	0.00%	0.00%	0.00%	0.00	0.85	0.00	0.00	0.00
Lacquer Thinner	6.8	0.50	0.050	0.00%	51.00%	5.00%	3.00%	0.00%	0.00	0.38	0.04	0.02	0.00

Total Potential Emissions **1.72      2.05      0.04      0.84      0.08**

**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: Emission Calculations  
Woodworking Operation**

**Company Name:** Heritage Wood Designs, LLC  
**Address City IN Zip:** 13320 County Road, Middlebury, Indiana 46540  
**Permit NUMBER:** 039-25300-00669  
**Reviewer:** Renee Traivaranon  
**Date:** October 18, 2007

Unit ID	Control Efficiency (%)	Grain Loading per Actual Cubic foot of Outlet Air (grains/cub. ft.)	Gas or Air Flow Rate (acfm.)	Emission Rate before Controls (lb/hr)	Emission Rate before Controls (tons/yr)	Emission Rate after Controls (lb/hr)	Emission Rate after Controls (tons/yr)
DC1	99.0%	0.001	4600	3.5	15.1	0.035	0.15

**Methodology**

Emission Rate in lbs/hr (after controls) = (grains/cub. ft.) (sq. ft.) ((cub. ft./min.)/sq. ft.) (60 min/hr) (lb/7000 grains)

Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)

Emission Rate in lbs/hr (before controls) = Emission Rate (after controls): (lbs/hr)/(1-control efficiency)

Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)

## Appendix A: Emissions Calculations

### Diesel-Fired Generator

**Company Name:** Heritage Wood Designs, LLC  
**Address, City IN Zip:** 13320 County Road, Middlebury, Indiana 46540  
**Permit Number:** 039-25300-00669  
**Reviewer:** Renee Traivaranon  
**Date:** October 18, 2007

Heat Input Capacity MMBtu/hr	Potential Throughput kgals/year	S = Weight % Sulfur <span style="border: 1px solid black; padding: 2px;">0.5</span>
<span style="border: 1px solid black; padding: 2px;">0.41</span>	25.65428571	

	Pollutant				
	PM*	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO
Emission Factor in lb/kgal	2.0	71 <i>(142.0S)</i>	20.0	0.34	5.0
Potential Emission in tons/yr	0.03	0.91	0.26	0.004	0.06

#### Methodology

1 gallon of No. 2 Fuel Oil has a heating value of 140,000 Btu

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.140 MM Btu

Emission Factors are from AP 42, Tables 1.3-1, 1.3-2, and 1.3-3 (SCC 1-03-005-01/02/03) Supplement E 9/98 (see erata file)

\*PM emission factor is filterable PM only. Condensable PM emission factor is 1.3 lb/kgal.

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

See page 2 for HAPs emission calculations.

**Appendix A: Emissions Calculations**

**Diesel-Fired Generator  
HAPs Emissions**

**Company Name:** Heritage Wood Designs, LLC  
**Address, City IN Zip:** 13320 County Road, Middlebury, Indiana 46540  
**Permit Number:** 039-25300-00669  
**Reviewer:** Renee Traivaranon  
**Date:** October 18, 2007

HAPs - Metals					
Emission Factor in lb/mmBtu	Arsenic 4.0E-06	Beryllium 3.0E-06	Cadmium 3.0E-06	Chromium 3.0E-06	Lead 9.0E-06
Potential Emission in tons/yr	7.18E-06	5.39E-06	5.39E-06	5.39E-06	1.62E-05

HAPs - Metals (continued)				
Emission Factor in lb/mmBtu	Mercury 3.0E-06	Manganese 6.0E-06	Nickel 3.0E-06	Selenium 1.5E-05
Potential Emission in tons/yr	5.39E-06	1.08E-05	5.39E-06	2.69E-05

**Methodology**

No data was available in AP-42 for organic HAPs.

Potential Emissions (tons/year) = Throughput (mmBtu/hr)\*Emission Factor (lb/mmBtu)\*8,760 hrs/yr / 2,000 lb/ton

**Appendix A: Emission Calculations**

**Propane - Heater**

**Company Name:** Heritage Wood Designs, LLC  
**Address City IN Zip:** 13320 County Road, Middlebury, Indiana 46540  
**Permit Number:** 039-25300-00669  
**Reviewer:** Renee Traivaranon  
**Date:** October 18, 2007

Heat Input Capacity                      Potential Throughput                      SO2 Emission factor = 0.10 x S  
 MMBtu/hr                                      kgals/year                                      S = Sulfur Content =  grains/100ft<sup>3</sup>  
                                     

Emission Factor in lb/kgal	Pollutant					
	PM*	PM10*	SO2 (0.10S)	NOx	VOC **TOC value	CO
Potential Emission in tons/yr	0.004	0.004	0.074	0.141	0.004	0.024

\*PM emission factor is filterable PM only. PM10 emission factor is assumed to be the same as PM based on a footnote in Table 1.5-1, therefore PM10 is filterable only as well.

\*\*The VOC value given is TOC. The methane emission factor is 0.2 lb/kgal.

**Methodology**

1 gallon of LPG has a heating value of 94,000 Btu

1 gallon of propane has a heating value of 91,500 Btu (use this to convert emission factors to an energy basis for propane)

(Source - AP-42 (Supplement B 10/96) page 1.5-1)

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.0915 MMBtu

Emission Factors are from AP42 (Supplement B 10/96), Table 1.5-1 (SCC #1-02-010-02)

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