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

TO: Interested Parties / Applicant

DATE: December 21, 2007

RE: Ohio Indiana Development / 003-25164-00355

FROM: Matthew Stuckey, Deputy Branch 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, Suite N 501E, 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.dot12/3/07

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
(317) 232-8603
(800) 451-6027
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Mr. Brian McLaughlin
Ohio Indiana Development
16833 Antwerp Road
Harlan, Indiana 46743

December 21, 2007

Re: Registered Construction and Operation Status,
R003-25164-00355

Dear Mr. McLaughlin:

The application from Ohio Indiana Development, received on August 21, 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 custom finish wood cabinet manufacturing plant, located at 16833 Antwerp Road, Harlan, Indiana 46743, is classified as registered:

(a) One (1) spray booth, identified as 1B, constructed in 2006, with a maximum capacity of 0.55 gallon of coatings and solvent per hour, using a low pressure air atomization spray gun for applying laquer to wood cabinets, with particulate emissions controlled by dry filters, and exhausting to vent;

(b) Two (2) natural gas-fired space heaters, identified as 1C, constructed in 1997, maximum capacity of 0.2 MMBtu/hr each;

(c) One (1) table saw, identified as 1A, constructed in 2006, with a total maximum capacity of 28.75 pounds of plywood sheets per hour, equipped with two (2) portable bag filters to control particulate emissions, and exhausting inside the building.

The following conditions shall be applicable:

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

   (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

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

2. Pursuant to 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes), particulate from surface coating operation shall be controlled by dry particulate filters, and the Permittee shall operate the control device in accordance with manufacturer's specifications.

   If overspray is visibly detected at the exhaust or accumulates on the ground, the Permittee shall inspect the control device and do either of the following no later than four (4) hours after such observation:

(a) Repair control device so that no overspray is visibly detectable at the exhaust or accumulates on the ground.

(b) Operate equipment so that no overspray is visibly detectable at the exhaust or accumulates on the ground.

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.

3. Pursuant to 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes), the particulate emissions from the table saw operations (1A), shall not exceed the following:

Baghouse ID Dust Collector	Process Weight Rate (lbs/hr)	Allowable PM Emission Rate (lbs/hour)
DC	28.75	0.551

Potential particulate emissions before control for the wood cutting operations 1A are each less than the 326 IAC 6-3-2 allowable particulate emission rate, therefore the control device is not required to comply with 326 IAC 6-3-2(e). The allowable rate of emission was calculated as follows:

Interpolation of the data in the table in 326 IAC 6-3-2(e) for the process weight rates 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

When the process weight rate is less than one hundred (100) pounds per hour, the allowable rate of emission is five hundred fifty-one thousandths (0.551) pound per hour. The source remains a registered source. The source may operate according to 326 IAC 2-5.5.

4. Pursuant to 326 IAC 8-2-12 (Wood Furniture and Cabinet Coating), the Permittee shall perform surface coating of wood furniture and cabinets, with the exception of no more than ten (10) gallons of coating per day used for touch-up and repair operations, using one (1) or more of the following application systems:

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.

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 Swarna Prabha, OAQ, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana, 46204, at 317-234-5376 or at 1-800-451-6027 (ext 45376).

Sincerely,

Original signed by
Iryn Calilung, Section Chief
Permits Branch
Office of Air Quality

IC/SP

cc: File - Allen County
Allen County Health Department
Air Compliance Section
Permit Tracking
Compliance Data Section
Permits Administrative and Development
Billing, Licensing and Training Section – Dan Stamatkin

Registration
Annual Notification

This form should be used to comply with the notification requirements under 326 IAC 2-5.5-4(a)(3)

Company Name:	**Ohio Indiana Development**
Address:	**16833 Antwerp Road, Indiana 46743**
City:	**Harlan, Indiana 46743**
Phone #:	**(260) 657-1428**
Registration Revision #:	**R003-25164-00355**

Certification by the Authorized Individual

I hereby certify that Ohio Indiana Development is still in operation and is in compliance with the requirements of Registration R003-25164-00355

Name (typed):

Title:

Signature:

Phone Number:

Date:

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Registration

Source Background and Description

Source Name:	Ohio Indiana Development
Source Location:	16833 Antwerp Road, Harlan, Indiana 46743
County:	Allen
SIC Code:	2434
Registration No.:	R003-25164-00355
Permit Reviewer:	Swarna Prabha

The Office of Air Quality (OAQ) has reviewed an application from Ohio Indiana Development, relating to the construction and operation of existing emission units in their existing stationary custom finish wood cabinet manufacturing plant. The facility applies the HAPs free laquer coating to wood cabinets.

Unpermitted Emission Units and Pollution Control Equipment

This application includes information relating to the construction and operation of the following new emission units:

(a) One (1) spray booth, identified as 1B, constructed in 2006, with a maximum capacity of 0.55 gallon of coatings and solvent per hour, using a low pressure air atomization spray gun, for applying laquer to wood cabinets, with particulate emissions controlled by dry filters, and exhausting to vent;

(b) Two (2) natural gas-fired space heaters, identified as 1C, constructed in 1997, maximum capacity of 0.2 MMBtu/hr each;

(c) One (1) table saw, identified as 1A, constructed in 2006, with a total maximum capacity of 11.31 pounds of plywood sheets per hour, equipped with two (2) portable bag filters to control particulate emissions, and exhausting inside the building.

Emission Units and Pollution Control Equipment Removed From the Source

There are no emission units removed from the source during this review process.

Existing Approvals

There are no previous approvals issued to this source.

Enforcement Issue

(a) IDEM is aware that equipment has been constructed and operated prior to receipt of the proper authorization (a Registration). The subject equipment is listed in this Technical Support Document under the condition entitled “Unpermitted Emission Units and Pollution Control Equipment”.

(b) IDEM is reviewing this matter and will take appropriate action. This proposed Registration is intended to satisfy the requirements of the construction permit rules..

Emission Calculations

(a) See Appendix A of this TSD for detailed emissions calculations (Appendix A, pages 1 through 4).

Potential to Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit 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."

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

Pollutant	Potential to Emit (tons/year)
PM	11.80
PM10	11.81
SO_2	0.00
VOC	12.90
CO	0.15
NO_x	0.18

HAPs	Potential to Emit (tons/year)
Worst Single HAP	3.2E-03
Combination HAPs	3.3E-03

(a) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) each criteria pollutant is less than twenty-five (25) tons per year but the potential to emit PM and PM10 are each 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 potential to emit (as defined in 326 IAC 2-7-1(16)) of VOC is equal to or greater than ten (10) tons per year and less than 25 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-5.5. A registration will be issued.

(c) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of any single HAP is less than ten (10) tons per year and the potential to emit of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.

County Attainment Status

The source is located in Allen County.

Pollutant	Status
PM-10	Attainment
SO_2	Attainment
NO_2	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 Allen, Clark, Allen, Floyd, LaPorte, St. Joseph as attainment for the 8-hour ozone standard.

(a) Allen 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 surrogate for PM2.5 emissions. See the State Rule Applicability – Entire Source section.

(b) 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. Allen County has been designated as attainment or unclassifiable for ozone standard. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3. See the State Rule Applicability – Entire Source section.

(c) Allen County has been classified as attainment or unclassifiable in Indiana for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. 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 or 326 IAC 2-3 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

(e) On October 25, 2006, the Indiana Air Pollution Control Board finalized a rule revision to 326 IAC 1-4-1 revoking the one-hour ozone standard in Indiana.

Source Status

Existing Source PSD and Emission Offset 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	11.80
PM-10	11.81
VOC	12.90
SO2	0.00
CO	0.15
NO_x	0.18
Worst Single HAP	3.2E-03
Combination HAPs	3.3E-03

This existing source is not a major stationary source, under PSD (326IAC 2-2) because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not in one of the 28 listed source categories, as specified in 326IAC 2-2-1(gg)(1). 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 potential to emit (PTE) of:

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

This status is based on the potential to emit calculations of the source (see Appendix A). This is the second air approval issued to this source.

Federal Rule Applicability

(a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the permit for this source.

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

(c) The requirements of the National Emission Standards for Hazardous Air Pollutants for Wood Furniture Manufacturing Operations (40 CFR 63, Subpart JJ, 326 IAC 20-14-1) are not included in the permit for this source, because this source is not a major source of HAPs as defined in 40 CFR 63.2.

State Rule Applicability – Entire Source

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

This source was constructed after the applicability date of August 7, 1977and it is not in one of the 28 listed source categories defined in 326 IAC 2-2-1(gg)(1) and the uncontrolled potential to emit of all attainment regulated pollutants is less than 250 tons per year. 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 not subject to 326 IAC 2-6 (Emission Reporting), because it is located in Allen County, it is not required to have an operating permit under 326 IAC 2-7, Part 70 Permit Program, and it does not emit lead into the ambient air at levels equal to or greater than five (5) tons per year.

326 IAC 5-1 (Opacity Limitations)

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

(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 in a six (6) hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Surface Coating Operations

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

Pursuant to 326 IAC 6-3-2(d), particulate from the surface coating booth (1B) shall be controlled by a dry particulate filter, and the Permittee shall operate the control device in accordance with manufacturer's specifications.

If overspray is visibly detected at the exhaust or accumulates on the ground, the Permittee shall inspect the control device and do either of the following no later than four (4) hours after such observation:

(a) Repair control device so that no overspray is visibly detectable at the exhaust or accumulates on the ground.

(b) Operate equipment so that no overspray is visibly detectable at the exhaust or accumulates on the ground.

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)

This rule applies to surface coating of wood furnishings, including cabinets (kitchen, bath, and vanity), tables, beds, chairs, sofas (nonupholstered), art objects, and any other coated furnishings made of solid wood, wood composition, or simulated wood material. The surface coating booth 1B is subject to 326 IAC 8-2-12, since it is the facility of the type described in 326 IAC 8-2-12, the source to be constructed after July 1, 1990, and emission unit 1B will have potential emissions of greater than fifteen (15) pounds of VOC per day before add-on controls. Pursuant to 326 IAC 8-2-12 (Wood Furniture and Cabinet Coating), the Permittee shall perform surface coating of wood furniture and cabinets, with the exception of no more than ten (10) gallons of coating per day used for touch-up and repair operations, using one (1) or more of the following application systems:

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. Since each of the surface coating booths uses air assisted airless spray, it is in compliance with 326 IAC 8-2-12. makes a request for records to the owner or operator of this source, the owner or operator of this

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

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

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

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

State Rule Applicability - Woodworking Operations 1A

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

Pursuant to 326 IAC 6-3-2(e), the particulate emissions from the woodworking operations (1A), shall not exceed the following:

Baghouse ID Dust Collector	Process Weight Rate (lbs/hr)	Allowable PM Emission Rate (lbs/hour)
DC	28.75	0.551

When the process weight rate is less than one hundred (100) pounds per hour, the allowable rate of emission is five hundred fifty-one thousandths (0.551) pound per hour.

Potential particulate emissions before control for the wood cutting operations 1A are each less than the 326 IAC 6-3-2 allowable particulate emission rate, therefore the control device is not required to comply with 326 IAC 6-3-2(e).

State Rule Applicability – Natural Gas Combustion Sources 1C

326 IAC 4-2-2 (Incinerators)

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

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

The natural gas-fired heaters, and air make-up unit are not subject to 326 IAC 6-2 as they are not sources of indirect heating.

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

Pursuant to 326 IAC 6-3-1(b)(14), the natural gas-fired heaters, are each exempt from the requirements of 326 IAC 6-3, because, pursuant to 326 IAC 1-2-59, liquid and gaseous fuels and combustion air are not considered as part of the process weight. In addition, each heater has a potential emissions less than five hundred fifty one thousandths (0.551) pound per hour.

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

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

Recommendation

The staff recommends to the Commissioner that the construction and operation 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.

A complete application for the purposes of this review was received on August 21, 2007. Additional information was submitted by the source on September 24, 2007 and December 11, 2007.

Conclusion

The construction and operation of this stationary custom finish wood panel manufacturing plant shall be subject to the conditions of the attached Registration No. R003-25164-00355.

Appendix A: Emissions Calculations
Emission Summary

Company Name: **Ohio Indiana Development**
Address City IN Zip: **16833 Antwerp Rd. Harlen, IN 46743**
Registration No.: **R003-25164-00355**
Reviewer: **S. Prabha**

	Uncontrolled Potential Emissions (tons/year)				
Category	Pollutant	Natural Gas Space Heaters 1C	Spray Booth 1B	Table Saw 1A	**TOTAL**
Criteria Pollutants	PM	0.00	2.95	8.85	11.80
	PM10	0.01	2.95	8.85	11.81
	SO2	0.00			0.00
	NOx	0.18			0.18
	VOC	0.01	12.89		12.90
	CO	0.15			0.15
Hazardous Air Pollutant	n-Hexane	3.2E-03			3.2E-03
	Chromium	2.5E-06			2.5E-06
	Manganese	6.7E-07			6.7E-07
	Nickel	3.7E-06			3.7E-06
	Toluene	6.0E-06			6.0E-06
	Benzene	3.7E-06			3.7E-06
	Dichlorobenzene	2.1E-06			2.1E-06
	Formaldehyde	1.3E-04			1.3E-04
	Lead	8.8E-07			8.8E-07
	Cadmium	1.9E-06			1.9E-06
	Totals	**3.3E-03**	**0.0E+00**		**3.3E-03**

Total emissions based on rated capacity at 8,760 hours/year.

	Controlled Potential Emissions (tons/year)				
	Emissions Generating Activity				
Category	Pollutant	Natural Gas Space Heaters 1C	Spray Booth 1B	Table Saw 1A	**TOTAL**
Criteria Pollutants	PM	0.00	0.15	0.09	0.24
	PM10	0.01	0.15	0.09	0.25
	SO2	0.00			0.00
	NOx	0.18			0.18
	VOC	0.01	12.89		12.90
	CO	0.15			0.15
Hazardous Air Pollutants	n-Hexane	3.2E-03			3.2E-03
	Chromium	2.5E-06			2.5E-06
	Manganese	6.7E-07			6.7E-07
	Nickel	3.7E-06			3.7E-06
	Toluene	6.0E-06			6.0E-06
	Benzene	3.7E-06			3.7E-06
	Dichlorobenzene	2.1E-06			2.1E-06
	Formaldehyde	1.3E-04			1.3E-04
	Lead	8.8E-07			8.8E-07
	Cadmium	1.9E-06			1.9E-06
	Totals	**3.3E-03**	**0.0E+00**		**3.3E-03**

Appendix A: Emissions Calculations
VOC and Particulate
Surface Coating Operations

Company Name: Ohio Indiana Development
Address City IN Zip: 16833 Antwerp Road, Harlan, IN 46743
Registration No. : 003-25164-00355
Reviewer: S. Prabha

Material	Density (lbs/Gal)	Weight % Volatile (H_20 & Organics)	Weight % Water	Weight % Organics	Volume % Water	Weight % Solids	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	VOC (lbs/gal) of coating	PTE of VOC (lbs/hr)	Actual Emissions of VOC** (lbs/day)	PTE of VOC (lbs/day)	PTE of VOC (tons/yr)	PTE of PM/PM10 Potential (ton/yr)	lbs VOC/gal solids	Transfer Efficiency*
Bernyl Facett LV 40	7.8	68.59%	0.00%	68.59%	0.00%	23.95%	0.55	1	5.35	5.35	2.94	14.71	70.62	12.89	2.95	22.34	50%
HAPS-Free																	

PM Control Efficiency: 95.0%

Uncontrolled		**70.62**	**12.89**	**2.95**
Controlled		**70.62**	**12.89**	**0.15**

*Assume transfer efficiency of 50% for air atomization guns and control efficieny of 95% for dry filters.
** Anticipated actual hours of operation assumed = 500 hours; 5 hours per day, 2 days per week, 50 wk per year
Assume all VOCs are emitted
Berny Facett LV 40 has no HAPs emissions

METHODOLOGY
Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
VOC lbs/gal of Coating = (Density (lb/gal) * Weight % Organics)
PTE of VOC (lbs/hr) = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
PTE of VOC (lbs/day) = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
PTE of VOC (tons/yr) = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
PTE of PM/PM10 (tons/yr) = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
lbs VOC/gal of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)

Appendix A: Emission Calculations
Particulate Emissions From Woodworking Operations

Company Name: Ohio Indiana Development
Address: 16833 Antwerp Rd. Harlen, IN 46743
Registration No.: R003-25164-00355
Reviewer: S. Prabha

Woodworking Operations 1A

Baghouse ID	Process Weight Rate (lbs/hour)	Sawdust Collected* (lbs/hour)	Collection/ Control Efficiency (%)	Uncontrolled PTE of PM/PM10 (tons/year)	Uncontrolled PTE of PM/PM10 (lbs/hour)	Controlled PTE of PM/PM10 (tons/year)	Controlled PTE of PM/PM10 (lbs/hour)	326 IAC 6-3-2 Allowable PM Emission Rate (lbs/hour)
DC	28.75	2.00	99.0%	8.85	2.02	0.09	0.020	0.551
			PTE TOTALS:	**8.85**		**0.09**		
			ACTUAL TOTALS**:	2.53		0.03		

Assume all PM is equal to PM10. Assume all sawdust collected is PM / PM10.
The dust collector exhausts inside the building.
Raw material input of 180 sheets of plywood per month
One sheet of 4 by 8 plywood sheet weighs 46 pounds
Process weight rate for the woodworking operations is =15 sheets /day * 365 days/year * 46 lbs/sheet=2,51,896 pounds per year
The process weight rate for the woodworking operations is 28.75 pounds per hour of hardwood.
*Based on reported amount of sawdust collected 30 pounds from one week of operation.
**Based on reported operation of 3 days per week, 5 hours per day, 50 weeks per year.

Methodology

PTE of PM/PM10 Uncontrolled (tons/year) = Sawdust Collected (lbs/hour) / (Control Efficiency %) x 8760 (hours/year) x 1 ton/2000 lbs
PTE of PM/PM10 Uncontrolled (lbs/hour) = Sawdust Collected (lbs/hour) / (Control Efficiency %)
PTE of PM/PM10 Controlled (tons/year) = Sawdust Collected (lbs/hour) x (1 - Control Efficiency %) x 8760 (hours/year) x 1 ton/2000 lbs
PTE of PM/PM10 Controlled (lbs/hour) = Sawdust Collected (lbs/hour) x (1 - Control Efficiency %)
Actual Emissions of PM/PM10 Uncontrolled (tons/year) = Sawdust Collected (lbs/hour) / (Control Efficiency %) x 2500 (hours/year) x 1 ton/2000 lbs
Actual Emissions of PM/PM10 Controlled (tons/year) = Sawdust Collected (lbs/hour) x (1 - Control Efficiency %) x 2500 (hours/year) x 1 ton/2000 lbs
326 IAC 6-3-2 Allowable PM Emission Rate (lbs/hour) for process weight less than 100 lbs/hr.

Appendix A: Emission Calculations
Combustion Emissions from the Natural Gas-space heater

Company Name: **Ohio Indiana Development**
Address: **16833 Antwerp Rd, Harlan, IN 46743**
Registration No.: **R003-25164-00355**
Reviewer: **Swarna Prabha**

Description	Total Heat Input Capacity (MMBtu/hr)	Total Max. Potential Throughput (MMCF/yr)
Two Building Heaters (1C)	0.4	3.5

Pollutant Emission Factors (lbs/MMCF)						
PM	**PM10***	**SO_2**	**NO_X****	**CO**	**VOC**	**HAPs**
1.9	7.6	0.6	100	84.0	5.5	1.89

	Potential To Emit (tons/yr)						
Emission Unit ID	**PM**	**PM10**	**SO_2**	**NO_X**	**CO**	**VOC**	**HAPs**
Two Building Heaters (1C)	0.00	0.01	0.00	0.2	0.1	0.01	0.003

Hazardous Air Pollutanta (HAPs)

Pollutant	Benzene	DCB	Formaldehyde	Hexane	Toluene	Pb	Cd	Cr	Mn	Ni
Emission Factor (lb/MMCF)	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
	Potential Emission tons/yr									
Emission Unit	Benzene	DCB	Formaldehyde	Hexane	Toluene	Pb	Cd	Cr	Mn	Ni
Two Building Heaters (1C)	3.7E-06	2.1E-06	1.3E-04	3.2E-03	6.0E-06	8.8E-07	1.9E-06	2.5E-06	6.7E-07	3.7E-06
Totals	**3.7E-06**	**2.1E-06**	**1.3E-04**	**3.2E-03**	**6.0E-06**	**8.8E-07**	**1.9E-06**	**2.5E-06**	**6.7E-07**	**3.7E-06**

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32
The five highest organic and metal HAPs emission factors are provided above. Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Methodology
Potential Throughput (MMCF) = Combined Total Heat Input Capacity (MMBtu/hr) * 8,760 hrs/yr * 1 MMCF/1,000 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) * Emission Factor (lb/MMCF) / 2,000 lb/ton
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu, MMCF = 1,000,000 Cubic Feet of Gas

Abbreviations

PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
SO2 = Sulfur Dioxide
NOx = Nitrous Oxides
VOC - Volatile Organic Compounds
CO = Carbon Monoxide
MMBtu = 1,000,000 Btu
MMCF - 1,000,000 Cubic Feet of Gas
1000 Btu per cubic foot of natural gas
DCB = Dichlorobenzene
Pb = Lead
Cd = Cadmium
Cr = Chromium
Mn = Manganese
Ni = Nickel