



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

TO: Interested Parties / Applicant

DATE: March 11, 2009

RE: Hudec Woodworking Co. / 089-27221-00539

FROM: Matthew Stuckey, 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.dot 1/2/08



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REGISTRATION OFFICE OF AIR QUALITY

Hudec Woodworking Co.
148 N. Ivanhoe Court,
Griffith, Indiana 46319

Pursuant to 326 IAC 2-5.1 (Construction of New Sources: Registrations) and 326 IAC 2-5.5 (Registrations), (herein known as the Registrant) is hereby authorized to construct and operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this registration.

Registration No. 089-27221-00539	
Issued by:  Alfred C. Dumauval, Ph. D., Section Chief Permits Branch Office of Air Quality	Issuance Date: March 11, 2009

SECTION A

SOURCE SUMMARY

This registration 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 and A.2 is descriptive information and does not constitute enforceable conditions. However, the Registrant 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 Registrant to obtain additional permits pursuant to 326 IAC 2.

A.1 General Information

The Registrant owns and operates a stationary architectural millwork source

Source Address:	148 N. Ivanhoe Court, Griffith, Indiana 46319
Mailing Address:	148 N. Ivanhoe Court, Griffith, Indiana 46319
General Source Phone Number:	(219) 922-9811
SIC Code:	2431
County Location:	Lake County
Source Location Status:	Nonattainment for 8-hour ozone standard Nonattainment for PM 2.5 standard Attainment for all other criteria pollutants
Source Status:	Registration

A.2 Emission Units and Pollution Control Equipment Summary

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

- (a) One (1) paint booth, identified as PB1, constructed in 1994, with a maximum production rate of 0.263 gallons per hour, using an air-assisted airless spray application system including an High Volume Low Pressure (HVLP) gun, using dry filters for particulate control, and venting outdoors.
- (b) Miscellaneous woodworking operations, identified as WW1, controlled by baghouse, identified as BH1, consisting of planing, sanding, sawing, and cnc machining, constructed in 1994, and venting indoors.
- (c) One (1) contact cement application area, constructed in 1994, and venting outdoors.
- (d) Fugitive emissions from paved roads and parking lots.

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-1.1-1]

Terms in this registration shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-1.1-1) shall prevail.

B.2 Effective Date of Registration [IC 13-15-5-3]

Pursuant to IC 13-15-5-3, this registration 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.

B.3 Registration Revocation [326 IAC 2-1.1-9]

Pursuant to 326 IAC 2-1.1-9 (Revocation), this registration to operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this registration.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this registration.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this registration shall not require revocation of this registration.
- (d) For any cause which establishes in the judgment of IDEM the fact that continuance of this registration is not consistent with purposes of this article.

B.4 Prior Permits Superseded [326 IAC 2-1.1-9.5]

- (a) All terms and conditions of permits established prior to Registration No. 089-27221-00539 and issued pursuant to permitting programs approved into the state implementation plan have been either:
 - (1) incorporated as originally stated,
 - (2) revised, or
 - (3) deleted.
- (b) All previous registrations and permits are superseded by this registration.

B.5 Annual Notification [326 IAC 2-5.1-2(f)(3)] [326 IAC 2-5.5-4(a)(3)]

Pursuant to 326 IAC 2-5.1-2(f)(3) and 326 IAC 2-5.5-4(a)(3):

- (a) An annual notification shall be submitted by an authorized individual to the Office of Air Quality stating whether or not the source is in operation and in compliance with the terms and conditions contained in this registration.
- (b) The annual notice shall be submitted in the format attached no later than March 1 of each year to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

- (c) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

B.6 Source Modification Requirement [326 IAC 2-5.5-6(a)]

Pursuant to 326 IAC 2-5.5-6(a), 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.

B.7 Registrations [326 IAC 2-5.1-2(i)]

Pursuant to 326 IAC 2-5.1-2(i), this registration does not limit the source's potential to emit.

SECTION C

SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-5.1-2(g)] [326 IAC 2-5.5-4(b)]

C.1 Opacity [326 IAC 5-1]

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, unless otherwise stated in this registration:

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

C.2 Fugitive Dust Emissions [326 IAC 6-4]

The Registrant 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).

SECTION D.1

OPERATION CONDITIONS

Facility Description [326 IAC 2-5.1-2(f)(2)] [326 IAC 2-5.5-4(a)(2)]:

- (a) One (1) paint booth, identified as PB1, constructed in 1994, with a maximum production rate of 0.263 gallons per hour, using an air-assisted airless spray application system including an High Volume Low Pressure (HVLP) gun, using dry filters for particulate control, and venting outdoors.

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

Emission Limitations and Standards [326 IAC 2-5.1-2(f)(1)] [326 IAC 2-5.5-4(a)(1)]

D.1.1 Volatile Organic Compounds (VOC) [326 IAC 8-2-12]

Pursuant to 326 IAC 8-2-12 (Wood Furniture and Cabinet Coating), the surface coatings applied to wood furniture and cabinets in the board bonding and surface coating processes shall utilize one of the following application methods:

- (a) Airless Spray Application
- (b) Air Assisted Airless Spray Application
- (c) Electrostatic Spray Application
- (d) Electrostatic Bell or Disc Application
- (e) Heated Airless Spray Application
- (f) Roller Coating
- (g) Brush or Wipe Application
- (h) 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) pound 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. The application method in the paint booth uses an air assisted airless spray application system with a High Volume Low Pressure (HVLP) gun; therefore, the source will be in compliance with 326 IAC 8-2-12.

D.1.2 Volatile Organic Compounds (VOC) [326 IAC 8-2-10]

In order to render the requirements of 326 IAC 8-2-10 (Surface Coating Emission Limitations: Flat Wood Panels) not applicable, the owner or operator of this source shall comply with the following:

- (a) The VOC usage for coating panels in paint booth PB1 shall be less than 15.0 pounds per day.

Compliance with this limit renders the requirements of 326 IAC 8-2-10 (Surface Coating Emission Limitations: Flat Wood Panels) not applicable.

Record Keeping and Reporting Requirements [326 IAC 2-5.1-2(g)] [326 IAC 2-5.5-4(b)]

D.1.3 Record Keeping Requirements

- (a) To document compliance with D.1.2, the owner or operator of this source shall maintain records for the total VOC usage for coating panels in paint booth PB1 each day. These records shall be taken as stated below and shall be complete and sufficient to establish compliance with the VOC emission limit for the paint booth:
 - (1) The amount and VOC content of each coating material, dilution solvent, and cleanup solvent used for each day. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount of materials used.
 - (2) The total VOC usage for coating panels in paint booth PB1 each day.
- (b) Records of all required monitoring data, reports and support information required by this exemption shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the owner or operator of this source, the owner or operator of this source shall furnish the records to the Commissioner within a reasonable time.
- (c) Unless otherwise specified in this exemption, all record keeping requirements not already legally required shall be implemented within ninety (90) days of approval date of this exemption.

SECTION D.2

OPERATION CONDITIONS

Facility Description [326 IAC 2-5.1-2(f)(2)] [326 IAC 2-5.5-4(a)(2)]:

- (b) Miscellaneous woodworking operations, identified as WW1, controlled by baghouse, identified as BH1, consisting of planing, sanding, sawing, and cnc machining, constructed in 1994, and venting indoors.

(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 2-5.1-2(f)(1)] [326 IAC 2-5.5-4(a)(1)]

D.2.1 Particulate [326 IAC 6-3-2] [326 IAC 2-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the miscellaneous woodworking operations, identified as WW1, shall not exceed 2.58 pounds per hour when operating at a process weight rate of 0.5 tons per hour.

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

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

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

Compliance Monitoring Requirements [326 IAC 2-5.1-2(g)] [326 IAC 2-5.5-4(b)]

D.2.2 Particulate Control

- (a) In order to comply with Conditions D.2.1, the baghouse for particulate control shall be in operation and control emissions from the miscellaneous woodworking operations at all times that these processes are in operation.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

D.2.3 Broken or Failed Bag Detection

- (a) For a single compartment baghouses controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced.
- (b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit.

Bag failure can be indicated by a significant drop in the baghouses pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH**

**REGISTRATION
ANNUAL NOTIFICATION**

This form should be used to comply with the notification requirements under 326 IAC 2-5.1-2(f)(3) and 326 IAC 2-5.5-4(a)(3).

Company Name:	Hudec Woodworking Co.
Address:	148 N. Ivanhoe Court
City:	Griffith, Indiana 46319
Phone Number:	(219) 922-9811
Registration No.:	089-27221-00539

I hereby certify that Hudec Woodworking Co. is :

still in operation.

I hereby certify that Hudec Woodworking Co. is :

no longer in operation.

in compliance with the requirements of Registration No. 089-27221-00539.

not in compliance with the requirements of Registration No. 089-27221-00539.

Authorized Individual (typed):
Title:
Signature:
Phone Number:
Date:

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

Noncompliance:

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for Registration

Source Description and Location

Source Name: Hudec Woodworking Co.
Source Location: 148 N. Ivanhoe Court, Griffith, Indiana 46319
County: Lake
SIC Code: 2431
Registration No.: 089-27221-00539
Permit Reviewer: Sarah Conner, Ph. D.

On November 18, 2008, the Office of Air Quality (OAQ) received an application from Hudec Woodworking Co. related to the operation of an existing stationary architectural millwork source.

Existing Approvals

There have been no previous approvals issued to this source.

County Attainment Status

The source is located in Lake County.

Pollutant	Designation
SO ₂	Better than national standards.
CO	Attainment effective February 18, 2000, for the part of the city of East Chicago bounded by Columbus Drive on the north; the Indiana Harbor Canal on the west; 148 th Street, if extended, on the south; and Euclid Avenue on the east. Unclassifiable or attainment effective November 15, 1990, for the remainder of East Chicago and Lake County.
O ₃	Nonattainment Subpart 2 Moderate effective June 15, 2004, for the 8-hour ozone standard. ¹
PM ₁₀	Attainment effective March 11, 2003, for the cities of East Chicago, Hammond, Whiting, and Gary. Unclassifiable effective November 15, 1990, for the remainder of Lake County.
NO ₂	Cannot be classified or better than national standards.
Pb	Not designated.
¹ Nonattainment Severe 17 effective November 15, 1990, for the Chicago-Gary-Lake County area for the 1-hour ozone standard which was revoked effective June 15, 2005. Basic nonattainment designation effective federally April 5, 2005, for PM _{2.5} .	

- (a) Ozone Standards
 Volatile organic compounds (VOC) and Nitrogen Oxides (NO_x) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone.
- (i) 1-hour ozone standard

On December 22, 2006 the United States Court of Appeals, District of Columbia issued a decision which served to partially vacate and remand the U.S. EPA's final rule for

implementation of the eight-hour National Ambient Air quality Standard for ozone. *South Coast Air Quality Mgmt. Dist. v. EPA*, 472 F.3d 882 (D.C. Cir., December 22, 2006), *rehearing denied* 2007 U.S. App. LEXIS 13748 (D.C. Cir., June 8, 2007). The U.S. EPA has instructed IDEM to issue permits in accordance with its interpretation of the *South Coast* decision as follows: Gary-Lake-Porter County was previously designated as a severe non-attainment area prior to revocation of the one-hour ozone standard, therefore, pursuant to the anti-backsliding provisions of the Clean Air Act, any new or existing source must be subject to the major source applicability cut-offs and offset ratios under the area's previous one-hour standard designation. This means that a source must achieve the Lowest Achievable Emission Rate (LAER) if it exceeds 25 tons per year of VOC emissions and must offset any increase in VOC emissions by a decrease of 1.3 times that amount.

On January 26, 1996 in 40 CFR 52.777(i), the U.S. EPA granted a waiver of the requirements of Section 182(f) of the CAA for Lake and Porter Counties, including the lower NOx threshold for nonattainment new source review. Therefore, VOC emissions alone are considered when evaluating the rule applicability relating to the 1-hour ozone standards. Therefore, VOC emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3. See the State Rule Applicability for the source section.

(ii) 8-hour ozone standard

VOC and NOx emissions are considered when evaluating the rule applicability relating to the 8-hour ozone standard. Lake County has been designated as nonattainment for the 8-hour 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.

(b) PM2.5

U.S. EPA, in the Federal Register Notice 70 FR 943 dated January 5, 2005, has designated Lake County as nonattainment for PM2.5. On March 7, 2005 the Indiana Attorney General's Office, on behalf of IDEM, filed a law suit with the Court of Appeals for the District of Columbia Circuit challenging U.S. EPA's designation of nonattainment areas without sufficient data. However, in order to ensure that sources are not potentially liable for a violation of the Clean Air Act, the OAQ is following the U.S. EPA's New Source Review Rule for PM2.5 promulgated on May 8th, 2008, and effective on July 15th 2008. Therefore, direct PM2.5 and SO2 emissions were reviewed pursuant to the requirements of Nonattainment New Source Review, 326 IAC 2-1.1-5. See the State Rule Applicability – Entire Source section.

(c) Other Criteria Pollutants

Lake 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.

Fugitive Emissions

The fugitive emissions of criteria pollutants and hazardous air pollutants are counted toward the determination of 326 IAC 2-5.1-2 (Registrations) applicability.

Background and Description of Emission Units and Pollution Control Equipment

The Office of Air Quality (OAQ) has reviewed an application, submitted by Hudec Woodworking Co. on November 18, 2008, relating to the operation of an existing stationary architectural millwork source. Additional information, including MSDS sheets was received on February 3, 2009 and February 5, 2009. Based on the PTE of the entire source, it was determined that this source would qualify for a Registration.

Unpermitted Emission Units and Pollution Control Equipment

The source consists of the following unpermitted emission unit:

- (a) One (1) paint booth, identified as PB1, constructed in 1994, with a maximum production rate of 0.0875 gallons per hour, using an air-assisted airless spray application system including an High Volume Low Pressure (HVLP) gun, using dry filters for particulate control, and venting outdoors.
- (b) Miscellaneous woodworking operations, identified as WW1, controlled by baghouse, identified as BH1, consisting of planing, sanding, sawing, and CNC machining, constructed in 1994, and venting indoors.
- (c) One (1) contact cement application area, constructed in 1994, and venting outdoors.
- (d) Fugitive emissions from paved roads and parking lots.

“Integral Part of the Process” Determination

In October 1993 a Final Order Granting Summary Judgment was signed by an Administrative Law Judge (“ALJ”) resolving an appeal of an IDEM permit related to the method by which IDEM calculated potential emissions from woodworking operations. In his findings, the ALJ determined that particulate controls were necessary for the facility to produce its normal product and is integral to the normal operation of the facility, and therefore, potential emissions were to be calculated after controls. Based on this ruling, potential emissions for particulate matter were calculated after consideration of the controls.

Since the baghouse is considered an integral part of the woodworking operation, the baghouse for particulate control shall be in operation and control emissions from the woodworking operation (WW1) at all times that the woodworking operation is in operation.

Enforcement Issues

IDEM is aware that the entire source was constructed and operated prior to receipt of the proper permit. IDEM is reviewing this matter and will take the appropriate action. This proposed approval is intended to satisfy the requirements of the construction permit rules.

Emission Calculations

See Appendix A of this TSD for detailed emission calculations.

Permit Level Determination – Registration

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

Process/ Emission Unit	Potential To Emit of the Entire Source (tons/year)								
	PM	PM10 *	PM2.5	SO ₂	NOx	VOC	CO	Total HAPs	Worst Single HAP
Paint Booth (PB1)	1.55	1.55	1.55	negl.	negl.	11.40	negl.	7.37	3.28 (Xylene)
Woodworking (WW1)	2.85	2.85	2.85	negl.	negl.	negl.	negl.	negl.	negl.
Contact Cement Application	negl.	negl.	negl.	negl.	negl.	<1.0	negl.	negl.	negl.
Paved Roads	0.03	0.01	0.01	negl.	negl.	negl.	negl.	negl.	negl.
Total PTE of Entire Source	4.44	4.41	4.41	negl.	negl.	12.40	negl.	7.37	3.28 (Xylene)
Exemption Levels	5	5	5	10	10	5 or 10	25	25	10
Registration Levels	25	25	25	25	25	25	100	25	10
negl. = negligible * Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant".									

- (a) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1(16)) of pollutant VOC is within the ranges listed in 326 IAC 2-5.1-2(a)(1). The PTE of all other regulated criteria pollutants are less than the ranges listed in 326 IAC 2-5.1-2(a)(1). Therefore, the source is subject to the provisions of 326 IAC 2-5.1-2 (Registrations). A Registration will be issued.
- (b) The potential to emit (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, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-7.

Federal Rule Applicability Determination

New Source Performance Standards (NSPS)

- (a) There are no New Source Performance Standards (NSPS)(40 CFR Part 60) included in the permit.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

- (b) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Wood Furniture, (40 CFR 63.800 Subpart JJ), are not included in the permit for this source because the source is not a major source of HAPs, as defined in 40 CFR 63.2.
- (c) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Surface Coating of Wood Building Products (40 CFR Part 63), Subpart QQQQ are not included in the permit for this source because the source is not a major source of HAPs, as defined in 40 CFR 63.2.
- (d) The requirements of the National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources (40 CFR Part 63),

Subpart HHHHHH are not included in the permit for this source because the source does not have paint stripping operations that use the chemical methylene chloride and does not perform autobody refinishing operations and does not perform spray application of coatings containing compounds of chromium (Cr), lead (Pb), manganese (Mn), nickel (Ni), or cadmium (Cd).

- (e) The requirements of the National Emission Standards for Hazardous Air Pollutants for Wood Preserving Area Sources (40 CFR Part 63), Subpart QQQQQQ are not included in the permit for this source because the source is not a wood preserving operation.
- (f) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in the permit.

Compliance Assurance Monitoring (CAM)

- (g) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is not included in the permit, because the unlimited potential to emit of the source is less than the Title V major source thresholds and the source is not required to obtain a Part 70 or Part 71 permit.

State Rule Applicability Determination

The following state rules are applicable to the source:

326 IAC 2-5.1-2 (Registrations)

Registration applicability is discussed under the Permit Level Determination – Registration section above.

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

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. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-4.1.

326 IAC 2-1.1-5 (Nonattainment New Source Review)

This existing source is not a major stationary source, under 326 IAC 2-1.1-5 (Nonattainment New Source Review), because the potential to emit particulate matter with a diameter less than ten 2.5 micrometers (PM_{2.5}), is less than 100 tons per year. Therefore, pursuant to 326 IAC 2-1.1-5, the Nonattainment New Source Review requirements do not apply.

326 IAC 2-6 (Emission Reporting)

Pursuant to 326 IAC 2-6-1, this source is not subject to this rule, because it is not required to have an operating permit under 326 IAC 2-7 (Part 70), it is located in Lake County, it has potential to emit of NO_x and VOC of less than twenty-five (25) tons per year, and it does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Therefore, 326 IAC 2-6 does 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, unless otherwise stated in this permit:

- (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.

326 IAC 6-4 (Fugitive Dust Emissions Limitations)

The source is subject to the requirements of 326 IAC 6-4, because the paved roads at the source have the potential to emit fugitive particulate emissions. Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source 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.

326 IAC 6.8-10 (Particulate Matter Limitations for Lake County: Fugitive Particulate Matter)

The potential to emit fugitive particulate matter (PM) from the paved roads at the source is less than 5 tons per year. Therefore, the source is not subject to the requirements of 326 IAC 6.8-10.

Surface Coating Operation

326 IAC 8-2-10 (Surface Coating Emission Limitations: Flat Wood Panels)

Pursuant to 326 IAC 8-2-1, the provisions of 326 IAC 8-2-10 apply to flat wood manufacturing and surface finishing operations constructed after July 1, 1990, located in any county, and which have actual emissions of greater than fifteen (15) pounds of volatile organic compounds per day before add-on controls. The potential to emit from the paint booth is greater than fifteen (15) pounds per day, but the source has opted to limit the VOC input when coating panels to less than fifteen (15) pounds per day in order to render the requirements of 326 IAC 8-2-10 not applicable. Therefore the owner or operator of this source shall comply with the following:

- (a) The VOC usage for coating panels in paint booth PB1 shall be less than 15.0 pounds per day.

Compliance with this limit renders the requirements of 326 IAC 8-2-10 (Surface Coating Emission Limitations: Flat Wood Panels) not applicable.
- (b) To document compliance with this limit, the owner or operator of this source shall maintain records for the total VOC usage for coating panels in paint booth PB1 each day. These records shall be taken as stated below and shall be complete and sufficient to establish compliance with the VOC emission limit for the paint booth:
 - (1) The amount and VOC content of each coating material, dilution solvent, and cleanup solvent used for each day. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount of materials used.
 - (2) The total VOC usage for coating panels in paint booth PB1 each day.
- (c) Records of all required monitoring data, reports and support information required by this exemption shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the owner or operator of this source, the owner or operator of this source shall furnish the records to the Commissioner within a reasonable time.

- (d) Unless otherwise specified in this exemption, all record keeping requirements not already legally required shall be implemented within ninety (90) days of approval date of this exemption.

326 IAC 8-2-12 (Volatile Organic Compounds (VOC): Wood Furniture and Cabinet Coating)

Pursuant to 326 IAC 8-2-12, the surface coatings applied to wood furniture and cabinets in the board bonding and surface coating processes are subject to this rule because, their construction commenced after July 1, 1990, and their actual emissions are greater than fifteen (15) pounds of VOC per day before add-on controls. Pursuant to 326 IAC 8-2-12, the surface coatings applied to wood furniture and cabinets in the board bonding and surface coating processes shall utilize the following one of the following application methods:

- (a) Airless Spray Application
- (b) Air Assisted Airless Spray Application
- (c) Electrostatic Spray Application
- (d) Electrostatic Bell or Disc Application
- (e) Heated Airless Spray Application
- (f) Roller Coating
- (g) Brush or Wipe Application
- (h) 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) pound 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.

The paint booth (PB1) uses an air assisted airless spray application system with a High Volume Low Pressure (HVLP) gun; therefore, the source is able to comply with 326 IAC 8-2-12.

Woodworking Operation

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

Pursuant to 326 IAC 6-3-2, the particulate emissions from the miscellaneous woodworking operations, identified as WW1, shall not exceed 2.58 pounds per hour when operating at a process weight rate of 0.5 tons per hour. The pound per hour limitation was calculated with the following equation:

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:

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

$$E = 4.1 (0.5 \text{ tons per hour})^{0.67} = 2.58 \text{ pounds per hour}$$

The potential to emit particulate from the miscellaneous woodworking operations is 0.65 pounds per hour after baghouse control; therefore, the miscellaneous woodworking operations is able to

comply with 326 IAC 6-3-2.

The baghouse shall be in operation at all times the miscellaneous woodworking operations are in operation, in order to comply with this limit.

326 IAC 6.8-1 (Particulate Matter Limitations for Lake County: General Provisions)

The source is not listed in 326 IAC 6.8-2 through 6.8-11 nor is the source-wide potential to emit particulate matter (PM) greater than 100 tons per year nor is the actual particulate emissions greater than 10 tons per year. Therefore, the source is not subject to the requirements of 326 IAC 6.8-1.

Conclusion and Recommendation

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 November 18, 2008, relating to the operation of an existing stationary architectural millwork source. Additional information, including MSDS sheets was received on February 3, 2009 and February 5, 2009.

The operation of this source shall be subject to the conditions of the attached proposed Registration No. 089-27221-00539. The staff recommends to the Commissioner that this Registration be approved.

IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Sarah Conner, Ph. D. at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 234-6555 or toll free at 1-800-451-6027 extension 4-6555.
- (b) A copy of the findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

**Appendix A: Emission Calculations
Summary**

Company Name: Hudec Woodworking Co.
Address City IN Zip: 148 Ivanhoe Court, Griffith, Indiana 46319
Permit: 089-27221-00539
Reviewer: Sarah Conner, Ph. D.
Date: 02/05/09

Emission Unit	Uncontrolled	Uncontrolled	Uncontrolled	Uncontrolled	Uncontrolled	Uncontrolled	Uncontrolled	Uncontrolled	Uncontrolled
	PTE PM tons/yr	PTE PM-10 tons/yr	PTE PM2.5 tons/yr	PTE VOC tons/yr	PTE SO2 tons/yr	PTE NOx tons/yr	PTE CO tons/yr	PTE Single Hap tons/yr	PTE Total HAPs tons/yr
Paint Booth (PB1)	1.55	1.55	1.55	11.40	-	-	-	3.28 (xylene)	7.37
Woodworking (WW1)	2.85	2.85	2.85	-	-	-	-	-	-
Contact Cement Application	-	-	-	<1.00*	-	-	-	-	-
Paved Roads	0.00	0.00	0.00	-	-	-	-	-	-
Total	4.41	4.41	4.41	12.40	-	-	-	3.28 (xylene)	7.37

* Note: Contact Cement is rarely applied, so the PTE for VOC is assumed to be less than 1.0 tons per year.

Emission Unit	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled
	PTE *PM tons/yr	PTE *PM-10 tons/yr	PTE *PM2.5 tons/yr	PTE VOC tons/yr	PTE SO2 tons/yr	PTE NOx tons/yr	PTE CO tons/yr	PTE Single Hap tons/yr	PTE Total HAPs tons/yr
Paint Booth	1.55	1.55	1.55	11.40	-	-	-	3.28 (xylene)	7.37
Woodworking	2.85	2.85	2.85	-	-	-	-	-	-
Contact Cement Application	-	-	-	<1.00*	-	-	-	-	-
Paved Roads	0.00	0.00	0.00	-	-	-	-	-	-
Total	4.41	4.41	4.41	12.40	-	-	-	3.28 (xylene)	7.37

* Note: Contact Cement is rarely applied, so the PTE for VOC is assumed to be less than 1.0 tons per year.

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

**Company Name: Hudec Woodworking Co.
Address City IN Zip: 148 Ivanhoe Court, Griffith, Indiana 46315
Permit: 089-27221-00533
Reviewer: Sarah Conner, Ph. D.
Date: 02/05/09**

Unrestricted Potential to Emit VOC and Particulate Matter from the one paint booth, identified as PB

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Maximum Average (gal/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Uncontrolled Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency	Controlled Particulate Potential (ton/yr)
Magnalac Pre-Catalyzed Lacquer Satin	7.8	71.00%	0.0%	71.0%	0.0%	22.00%	0.088	5.55	5.55	0.49	11.66	2.13	0.26	25.24	70%	0.08
Magnalac Standard Lacquer Thinner	7.1	100.00%	0.0%	100.0%	0.0%	0.00%	0.026	7.10	7.10	0.19	4.48	0.82	0.00	0.00	70%	0.00
EuroBld Clear 2K Polyurethane Gloss (use with green cataly)	8.3	53.00%	0.0%	53.0%	0.0%	40.00%	0.058	4.38	9.93	0.87	13.90	2.54	0.45	10.94	70%	0.13
EuroBld Clear 2K Polyurethane Satin (use with green cataly)	8.3	51.00%	0.0%	51.0%	0.0%	32.00%	0.058	4.21	9.76	0.85	13.67	2.49	0.47	13.16	70%	0.14
EuroBld Clear 2K Polyurethane Dull (use with green cataly)	8.2	51.00%	0.0%	51.0%	0.0%	31.00%	0.058	4.17	9.72	0.85	13.61	2.48	0.46	13.46	70%	0.14
Euro Green Cataly	7.9	70.00%	0.0%	70.0%	0.0%	24.00%	0.029	5.55	5.55	0.16	3.89	0.71	0.09	23.13	70%	0.03
EuroBld Sealer (use with green cataly and reducer)	8.0	60.00%	0.0%	60.0%	0.0%	33.00%	0.058	4.81	10.36	0.91	14.50	2.65	0.37	14.56	70%	0.11
Euro X Clear 2k polyurethane Satin (use with yellow cataly)	8.3	51.00%	0.0%	51.0%	0.0%	42.00%	0.044	4.25	10.26	0.90	10.77	1.97	0.47	10.13	70%	0.14
Euro Yellow Cataly	8.0	75.00%	0.0%	75.0%	0.0%	19.00%	0.044	6.01	6.01	0.26	6.31	1.15	0.12	31.62	70%	0.03
550 Krystal High Solids catalyzed varnish Sati	7.81	56.00%	7.0%	49.0%	0.0%	33.00%	0.083	3.83	8.67	0.76	17.30	3.16	0.40	11.60	70%	0.12
Care Cat Low VOC	7.69	65.00%	2.0%	63.0%	0.0%	26.00%	0.004	4.84	4.84	0.02	0.51	0.09	0.02	18.63	70%	0.00
Woodsong II HI Performance Stain Basr	6.89	80.00%	0.0%	80.0%	0.0%	16.00%	0.080	5.51	5.51	0.44	10.58	1.93	0.14	34.46	70%	0.04

Worst case VOC and PM from finish= 3.16 0.47 0.14

Total worst case VOC from Paint booth= one coat of stain plus 3 coats of worst finish. 11.40 1.55 0.47

METHODOLOGY

Materials listed include all the coatings used in recently in the paint boc
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) (24 hr/day)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1 - Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)
Total = Worst Coating + Sum of all solvents used

**Appendix A: Emissions Calculations
HAPs Emissions
From Surface Coating Operations**

**Company Name: Hudec Woodworking Co.
Address City IN Zip: 148 Ivanhoe Court, Griffith, Indiana 46315
Permit: 089-27221-00539
Reviewer: Sarah Conner, Ph. D.
Date: 02/05/09**

Unrestricted Potential to Emit VOC and Particulate Matter from the one paint booth, identified as PB1

Material	Density (lb/gal)	Maximum Average (gal/hr)	Weight % Xylene	Weight % Toluene	Weight % Formaldehyde	Weight % Dibutyl Phthalate	Weight % Glycol Ethers	Weight % Methyl isobutyl ketone	Weight % Ethylbenzene	Weight % 1-Butanol	Xylene Emissions (tons/yr)	Toluene Emissions (tons/year)	Formaldehyde Emissions (tons/yr)	Dibutyl Phthalate Emissions (tons/yr)	Glycol Ethers Emissions (tons/yr)	Methyl isobutyl ketone Emissions (tons/yr)	Ethylbenzene Emissions (tons/yr)	1-Butanol Emissions (tons/yr)	Total Combined HAPs
Magnalac Pre-Catalyzed Lacquer Satin	7.8	0.088	0.00%	0.00%	0.00%	11.00%	0.00%	0.00%	0.00%	2.00%	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.06	0.39
Magnalac Standard Lacquer Thimne	7.1	0.026	0.00%	66.00%	0.00%	0.00%	2.00%	10.00%	0.00%	0.00%	0.00	0.54	0.00	0.00	0.00	0.00	0.00	0.00	0.64
Eurobild Clear 2K Polyurethane Gloss(use with green catalys)	8.3	0.058	36.00%	0.00%	0.00%	0.00%	0.00%	0.00%	6.00%	0.00%	1.04	0.00	0.00	0.00	0.00	0.00	0.18	0.00	1.21
Eurobild Clear 2K Polyurethane Satin (use with green catalys)	8.3	0.058	33.00%	0.00%	0.00%	0.00%	0.00%	0.00%	6.00%	0.00%	0.97	0.00	0.00	0.00	0.00	0.00	0.18	0.00	1.15
Eurobild Clear 2K Polyurethane Dull (use with green catalys)	8.2	0.058	33.00%	0.00%	0.00%	0.00%	0.00%	0.00%	6.00%	0.00%	0.96	0.00	0.00	0.00	0.00	0.00	0.18	0.00	1.14
Euro Green Catalys	7.9	0.029	27.00%	0.00%	0.00%	0.00%	0.00%	0.00%	5.00%	0.00%	0.27	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.32
EuroBild Sealer (use with green catalys)	8.0	0.058	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.27	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.32
Euro X Clear 2k polyurethane Satin (use with yellow catalys)	8.3	0.044	22.00%	0.00%	0.00%	0.00%	0.00%	0.00%	4.00%	0.00%	0.44	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.52
Euro Yellow Catalys	8.0	0.044	6.00%	0.10%	0.00%	0.00%	0.00%	0.00%	1.00%	0.00%	0.09	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.11
550 Krystal High Solids catalyzed varnish Sati	7.81	0.088	2.00%	0.00%	0.10%	0.00%	0.00%	0.00%	0.20%	7.00%	0.06	0.00	0.00	0.00	0.00	0.00	0.01	0.21	0.28
Care Cat Low VOC	7.89	0.004	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
Woodsong II Hi Performance Stain Basr	6.89	0.080	7.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.00%	0.00%	0.17	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.19
Worst case Single HAP from finish=											3.28	1.62	0.00	0.99	0.05	0.25	0.56	0.63	7.37

Potential HAP Emissions from one paint booth from 1 coat of stain and up to 3 coats of finish material per panel.

METHODOLOGY

Materials listed include all the coatings used in recently in the paint booth
HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000

Total worst case Single HAP from paint booth= one coat of stain plus 3 coats of worst finish.

3.28 (Xylene)

Total worst case Combined HAPs from paint booth= one coat of stain plus 3 coats of worst finish.

7.37 total

**Appendix A: Emission Calculations
Baghouse Operations**

Company Name: Hudec Woodworking Co.
Address City IN Zip: 148 Ivanhoe Court, Griffith, Indiana 46319
Permit: 089-27221-00539
Reviewer: Sarah Conner, Ph. D.
Date: 02/05/09

Woodworking

Unit ID WW1	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)
Woodworking	98.0%	*0.01	7600	32.6	143	0.65	2.85

Methodology

*Note: PTE calculations for Woodworking were based on the worst case scenario of grains/cub. Ft of outlet air based on conversations with the manufacturer of the baghouse then multiplied by a factor of 2 to be over conservative. The baghouse manufacturer estimated that worst case grains/cub ft. would be 0.005 for woodworking.

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)

**In October 1993 a Final Order Granting Summary Judgment was signed by Administrative Law Judge (“ALJ”) Garrettson resolving an appeal filed by Kimball Hospitality Furniture Inc. (Cause Nos. 92-A-J-730 and 92-A-J-833) related to the method by which IDEM calculated potential emissions from woodworking operations. In his findings, the ALJ determined that particulate controls are necessary for the facility to produce its normal product and are integral to the normal operation of the facility, and therefore, potential emissions should be calculated after controls. Based on this ruling, potential emissions for particulate matter were calculated after consideration of the controls.

**Appendix A: Emission Calculations
Fugitive Dust Emissions - Paved Roads**

Company Name: Hudec Woodworking Co.
Address City IN Zip: 148 Ivanhoe Court, Griffith, Indiana 46319
Permit: 089-27221-00539
Reviewer: Sarah Conner, Ph. D.
Date: 02/05/09

Paved Roads at Industrial Site

The following calculations determine the amount of emissions created by paved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (12/2003).

Vehicle Information (provided by source)

Type	Maximum number of vehicles	Number of one-way trips per day per vehicle	Maximum trips per day (trip/day)	Maximum Weight Loaded (tons/trip)	Total Weight driven per day (ton/day)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/day)	Maximum one-way miles (miles/yr)
Passenger Vehicle (entering plant) (one-way trip)	10.0	1.0	10.0	2.5	25.0	50	0.009	0.1	34.6
Passenger Vehicle (leaving plant) (one-way trip)	10.0	1.0	10.0	2.5	25.0	50	0.009	0.1	34.6
Semi truck (entering plant) (one-way trip)	6.0	1.0	6.0	16.0	96.0	400	0.076	0.5	165.9
Semi truck (leaving plant) (one-way trip)	6.0	1.0	6.0	16.0	96.0	400	0.076	0.5	165.9
Total			32.0		242.0			1.1	400.9

Average Vehicle Weight Per Trip = $\frac{7.6}{0.03}$ tons/trip
Average Miles Per Trip = $\frac{7.6}{0.03}$ miles/trip

Unmitigated Emission Factor, $E_f = [k * (sL/2)^{0.65} * (W/3)^{1.5} - C]$ (Equation 1 from AP-42 13.2.1)

	PM	PM10	PM2.5	
where k =	0.082	0.016	0.0024	lb/mi = particle size multiplier (AP-42 Table 13.2.1-1)
W =	7.6	7.6	7.6	tons = average vehicle weight (provided by source)
C =	0.00047	0.00047	0.00036	lb/mi = emission factor for vehicle exhaust, brake wear, and tire wear (AP-42 Table 13.2.1-2)
sL =	0.6	0.6	0.6	g/m ² = Ubiquitous Baseline Silt Loading Values of paved roads (Table 13.2.1-3 for summer months)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, $E_{ext} = E * [1 - (p/4N)]$

Mitigated Emission Factor, $E_{ext} = E_f * [1 - (p/4N)]$
where p = $\frac{125}{365}$ days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
N = $\frac{125}{365}$ days per year

	PM	PM10	PM2.5	
Unmitigated Emission Factor, $E_f =$	0.15	0.03	0.00	lb/mile
Mitigated Emission Factor, $E_{ext} =$	0.14	0.03	0.00	lb/mile

Process	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)
Vehicle (entering plant) (one-way trip)	0.00	0.00	0.00	0.00	0.00	0.00
Vehicle (leaving plant) (one-way trip)	0.00	0.00	0.00	0.00	0.00	0.00
	0.01	0.00	0.00	0.00	0.00	0.00

Methodology

Total Weight driven per day (ton/day) = [Maximum Weight Loaded (tons/trip)] * [Maximum trips per day (trip/day)]
Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]
Maximum one-way miles (miles/day) = [Maximum trips per year (trip/day)] * [Maximum one-way distance (mi/trip)]
Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per day (ton/day)] / SUM[Maximum trips per day (trip/day)]
Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/day)] / SUM[Maximum trips per year (trip/day)]
Unmitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] * [Unmitigated Emission Factor (lb/mile)] * (ton/2000 lbs)
Mitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] * [Mitigated Emission Factor (lb/mile)] * (ton/2000 lbs)
Controlled PTE (tons/yr) = [Mitigated PTE (tons/yr)] * [1 - Dust Control Efficiency]

Abbreviations

PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
PM2.5 = Particle Matter (<2.5 um)
PTE = Potential to Emit