November 20, 2002

RE: Quality Wood Products 039-16465-00571

TO: Interested Parties / Applicant

FROM: Paul Dubenetzky
Chief, Permits Branch
Office of Air Quality

Notice of Decision: 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 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, ISTA Building, 150 W. Market Street, Suite 618, Indianapolis, IN 46204, **within (18) eighteen 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 consideration 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.

Enclosure

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We make Indiana a cleaner, healthier place to live.

Frank O'Bannon
Governor

Lori F. Kaplan
Commissioner

100 North Senate Avenue
P. O. Box 6015
Indianapolis, Indiana 46206-6015
(317) 232-8603
(800) 451-6027
www.state.in.us/idem

November 20, 2002

Mr. Ed Lengerich
Quality Wood Products
2933 Thorne Drive
Elkhart, Indiana 46514

Re: Registered Construction and Operation Status,
039-16465-00571

Dear Mr. Lengerich:

The application from Quality Wood Products, received on August 14, 2002, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-5.5, it has been determined that the following emission units located at 2933 Thorne Drive, Elkhart, Indiana 46992, are classified as registered:

(a) One (1) Binks paint booth for wood coating operations, with a maximum process rate of 40 wood parts per hour and equipped with a high volume low pressure (HVLP) spray gun, using dry filters for overspray control of particulates, and exhausting through stack S1.

(b) One (1) woodworking and plastics machining process, with a maximum process rate of 100 pounds of wood and plastic per hour, controlled by four (4) portable dust collectors, and exhausting into the building.

(c) Four (4) natural gas-fired heaters, with a total maximum heat input rate of 0.16 MMBtu/hr.

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 8-2-12 (Wood Furniture and Cabinet Coating), the surface coating applied to wood furniture and cabinets shall utilize one of the following application methods:

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

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

3. Pursuant to 326 IAC 6-3-2(d)(Manufacturing Processes), the Binks paint booths has the following requirements:

   (a) Particulate emissions from the Binks paint booth shall be controlled by a dry particulate filter, and the Permittee 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 Permittee shall inspect the control device and do either of the following no later than four (4) hours after such observation:

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

      (2) 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.

4. Pursuant to 326 IAC 6-3-2(e)(2)(Manufacturing Processes), the allowable particulate emissions from the woodworking and plastic machining process shall not exceed 0.551 lbs/hr. The dust collectors shall be in operation at all times when the woodworking and plastic machining process is in operation.

5. The potential emissions of VOC from the entire source is less than ten (10) tons per year. Therefore, 326 IAC 2-6 (Emission Reporting) does not apply.

   Any change or modification which increases the potential VOC emissions from the entire source to greater than ten (10) tons per year, the Permittee will be subject to 326 IAC 2-6 (Emission Reporting) and must annually submit an emission statement for the source. The annual statement must be received by April 15 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8)(Emission Statement Operating Year).

6. The Permittee shall maintain records in accordance with (a) through (c) below. Records maintained for (a) through (c) shall be taken monthly and shall be complete and sufficient to establish compliance with the Registration status.

   (a) The amount, VOC content, and HAP content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;

(b) The total HAP and VOC usage for each month; and

(c) The weight of VOC and HAP usage for each compliance period.

Any change or modification which may increase the potential emissions to 25 tons per year or more of volatile organic compounds must be approved by the Office of Air Quality before any such change may occur. Additionally, any change or modification which may increase the potential emissions of a single HAP to greater than 10 tons per year or a combination of HAPs to greater than 25 tons per year must be approved by OAQ before such change may occur.

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
P.O. Box 6015
Indianapolis, IN 46206-6015

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.

Pursuant to Contract No. A305-0-00-36, IDEM, OAQ has assigned the processing of this application to Eastern Research Group, Inc., (ERG). Therefore, questions should be directed to Yu-Lien Chu, ERG, 1600 Perimeter Park Drive, Morrisville, North Carolina 27560, or call (919) 468-7871 to speak directly to Ms. Chu. Questions may also be directed to Duane Van Laningham at IDEM, OAQ, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, or call (800) 451-6027, press 0 and ask for Duane Van Laningham, or extension 3-6878, or dial (317) 233-6878.

Sincerely,

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

ERG/YC

cc: File - Elkhart County
Elkhart County Health Department
Air Compliance - Tony Pelath
Northern Regional Office
Permit Tracking - Sara Cloe
Technical Support and Modeling - Michele Boner
Compliance Data Section - Karen Nowak

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:	**Quality Wood Products**
Address:	**2933 Thorne Drive**
City:	**Elkhart, Indiana 46514**
Authorized individual:	**Ed Lengerich**
Phone #:	**(574) 264-5227**
Registration #:	**039-16465-00571**

I hereby certify that Quality Wood Products is still in operation and is in compliance with the requirements of Registration 039-16465-00571.

Name (typed):
Title:
Signature:
Date:

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Registration

Source Background and Description

Source Name: Quality Wood Products
Source Location: 2933 Throne Drive, Elkhart, Indiana 46514
County: Elkhart
SIC Code: 2434
Operation Permit No.: 039-16465-00571
Permit Reviewer: ERG/YC

The Office of Air Quality (OAQ) has reviewed an application from Quality Wood Products relating to the construction and operation of a wood furniture and cabinet manufacturing plant.

Permitted Emission Units and Pollution Control Equipment

There are no permitted emission units or pollution control equipment at this source.

Unpermitted Emission Units and Pollution Control Equipment

(a) One (1) Binks paint booth for wood coating operations, with a maximum process rate of 40 wood parts per hour and equipped with a high volume low pressure (HVLP) spray gun, using dry filters for overspray control of particulates, and exhausting through stack S1.

(b) One (1) woodworking and plastics machining process, with a maximum process rate of 100 pounds of wood and plastic per hour, controlled by four (4) portable dust collectors, and exhausting into the building.

(c) Four (4) natural gas-fired heaters, with a total maximum heat input rate of 0.16 MMBtu/hr.

New Emission Units and Pollution Control Equipment Receiving Prior Approval

There are no new construction activities included in this permit.

Existing Approvals

No previous approvals have been issued to this source.

Enforcement Issue

(a) IDEM is aware that equipment has been constructed and operated prior to receipt of the proper permit. The subject equipment is listed in this Technical Support Document under the section titled *Unpermitted Emission Units and Pollution Control Equipment.*

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

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (^{0}F)
S-1	Bink Paint Booth	18	2	8,363	70

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.

An application for the purposes of this review was received on August 14, 2002, with additional information received on September 23, 2002.

Emission Calculations

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

Potential To Emit of Source Before Controls

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."

Pollutant	Potential To Emit (tons/year)
PM	9.72
PM-10	9.72
SO_2	Negligible
VOC	6.37
CO	0.06
NO_x	0.07

HAP's	Potential To Emit (tons/year)
Xylene	0.63
Ethylbenzene	0.13
Methanol	0.09
Toluene	0.71
MEK	0.09
MIBK	0.02
TOTAL	1.66

(a) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of criteria pollutants is less than 100 tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.

(b) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of criteria pollutants is less than 25 tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-6.1.

(c) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of criteria pollutants is greater than levels listed in 326 IAC 2-1.1-3(d)(1), therefore the source is subject to the provisions of 326 IAC 2-5.5.1.

(d) 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/or the potential to emit (as defined in 326 IAC 2-1.1-1(16)) 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.

(e) Fugitive Emissions
Since this type of operation is not one of the twenty-eight (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 particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

County Attainment Status

The source is located in Elkhart County.

Pollutant	Status
PM-10	Attainment
SO_2	Attainment
NO_2	Attainment
Ozone	Maintenance Attainment
CO	Attainment
Lead	Attainment

(a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Elkhart County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(b) Elkhart County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(c) Fugitive Emissions
Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2, 40 CFR 52.21, 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.

Source Status

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

Pollutant	Emissions (ton/yr)
PM	9.72
PM10	9.72
SO_2	0
VOC	6.37
CO	0.06
NO_x	0.07

Single HAP	0.71
Combination HAPs	1.66

This new source is **not** a major stationary source 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, and 40 CFR 52.21, the PSD requirements do not apply.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This new 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/year.

This is the first air approval issued to the source.

Federal Rule Applicability

(a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.

(b) The coating operations at this source apply coatings to wood furniture only. Therefore, the New Source Performance Standards for Surface Coating of Metal Furniture (40 CFR Part 60.310 - 60.316, Subpart EE) are not applicable to this source.

(c) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this source.

(d) The source has the potential to emit HAPs from the entire source less than 10 tons/yr for a single HAP and less than 25 tons/yr for any combination of HAPs. Therefore, the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Wood Furniture Manufacturing Operations (40 CFR Part 63, Subpart JJ) are not applicable to this source.

State Rule Applicability - Entire Source

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

The source was constructed in 2001 and no modifications have been made since then. The source is not in 1 of 28 source categories defined in 326 IAC 2-2-1(p)(1) and has the potential to emit of any regulated pollutant before controls less than two hundred and fifty (250) tons per year. Therefore, the requirements of 326 IAC 2-2 are not applicable.

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

The source was constructed after July 27, 1997. However, the potential to emit HAPs from the entire source is less than the major source thresholds. Therefore, the requirements of 326 IAC 2-4.1 are not applicable.

326 IAC 2-6 (Emission Reporting)

This source is located in Elkhart County and the potential to emit VOC is less than ten (10) tons per year. Therefore, the requirements of 326 IAC 2-6 are not applicable.

However, if any change or modification which increases the potential VOC emissions from the entire source to greater than ten (10) tons per year, the Permittee will be subject to 326 IAC 2-6 (Emission Reporting). Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by April 15 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8)(Emission Statement Operating 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) 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 - Binks Paint Booth

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

This Bink paint booth is used for wood surface coating operations only. The actual VOC emissions from this paint booth are greater than 15 pounds per day. Pursuant to 326 IAC 8-2-12, the surface coating applied to wood furniture and cabinets shall utilize one of the following application methods,

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

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

This paint booth is equipped with a HVLP spray gun and is, therefore, in compliance with 326 IAC 8-2-12.

326 IAC 8-1-6 (General Reduction Requirements for VOC Emissions)

The potential to emit VOCs from the blinks paint booth is less than 25 tons per year and the requirements of 326 IAC 8-2-12 apply to this booth. Therefore, the requirements of 326 IAC 8-1-6 are not applicable.

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

Pursuant to 326 IAC 6-3-2(d), particulate emissions from the Binks paint booth 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:

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

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.

State Rule Applicability - Woodworking and Plastic Machining Process

326 IAC 6-3-2 (Manufacturing Processes)

The woodworking and plastic machining process handles less than 100 lbs of material per hour. Pursuant to 326 IAC 6-3-2(e)(2), the allowable particulate emissions from this process shall not exceed 0.551 lbs/hr. The use of dust collectors with this process ensures compliance with this limit.

Conclusion

The operation of this wood furniture and cabinet manufacturing plant shall be subject to the conditions of the attached proposed Registration 039-16465-00571.

Appendix A: Emission Calculations
VOC and PM/PM10 Emissions
Binks Paint Booth

Company Name: Quality Wood Products
Address City IN Zip: 2933 Thorne Drive, Elkhart, IN 46514
Registration: 039-16465-00571
Reviewer: ERG/YC
Date: October 11, 2002

Coatings	Density (Lb/Gal)	Weight % Volatile (H_2O & Organics)	Weight % Water	Weight % Organics	Maximum Throughput (unit/hr)	Maximum Usage (gal/unit)	Pounds VOC per gallon of coating	Potential VOC (lbs/hr)	Potential VOC (lbs/day)	Potential VOC (tons/yr)	*PM/PM10 Potential (lb/hr)	*PM/PM10 Potential (ton/yr)	Transfer Efficiency
St-1085	7.66	79.95%	14.2%	65.80%	40.0	0.00007	5.04	0.01	0.34	0.06	0.00	0.01	65%
St-1044	6.58	96.82%	5.8%	91.03%	40.0	0.00020	5.99	0.05	1.15	0.21	0.00	0.00	65%
St-1043	6.66	95.75%	9.0%	86.79%	40.0	0.00010	5.78	0.02	0.55	0.10	0.00	0.00	65%
St-1141	6.74	98.96%	0.0%	98.96%	40.0	0.00007	6.67	0.02	0.45	0.08	0.00	0.00	65%
35-0509b	7.56	73.55%	7.5%	66.01%	40.0	0.00700	4.99	**1.40**	33.53	**6.12**	**0.20**	**0.86**	65%
CCS-972	6.64	100.00%	0.0%	100.00%	40.0	0.00005	6.64	0.01	0.32	0.06	0.00	0.00	65%
D&L Blend	7.01	100.00%	0.0%	100.00%	40.0	0.00020	7.01	0.06	1.35	0.25	0.00	0.00	65%
WS-1882XF	7.67	89.04%	0.0%	89.04%	40.0	0.00070	6.83	0.19	4.59	0.84	0.01	0.04	65%
WS1671XF	7.15	99.00%	0.0%	99.00%	40.0	0.00030	7.08	0.08	2.04	0.37	0.00	0.00	65%
WS1413	7.18	99.07%	0.6%	98.52%	40.0	0.00070	7.07	0.20	4.75	0.87	0.00	0.00	65%
****Total (worst case)**								**1.40**	**33.53**	**6.12**	**0.20**	**0.86**	
Cleaning Solvent (4-PLT)	7.01	100.00%	0.0%	100.00%	40.0	0.00020	7.01	0.06	1.35	0.25	0.00	0.00	0%
Total								**1.45**	**34.88**	**6.37**	**0.20**	**0.86**	

*Assume all the PM emissions are PM10 emissions.
** Only one type of coating can be applied for the booth at one time. Therefore, the worst case scenario is the one which has the highest VOC/PM emissions.

METHODOLOGY

Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC (lbs/hr) = Pounds of VOC per Gallon coating (lb/gal) * Max. Throughput (unit/hr) * Max. Usage (gal/unit)
Potential VOC (lbs/day) = Pounds of VOC per Gallon coating (lb/gal) * Max. Throughput (unit/hr) * Max. Usage (gal/unit) * (24 hr/day)
Potential VOC (tons/yr) = Pounds of VOC per Gallon coating (lb/gal) * Max. Throughput (unit/hr) * Max. Usage (gal/unit) * (8760 hr/yr) * (1 ton/2000 lbs)
Potential PM/PM10 (lbs/hr) = Max. Throughput (unit/hr) * Max. Usage (gal/unit) * Density (lbs/gal) * (1- Weight % Volatile) * (1-Transfer efficiency)
Potential PM/PM10 (tons/yr) = Max. Throughput (unit/hr) * Max. Usage (gal/unit) * Density (lbs/gal) * (1- Weight % Volatile) * (1-Transfer efficiency) * (8760 hrs/yr) *(1 ton/2000 lbs)

Appendix A: Emission Calculations
HAP Emissions
Binks Paint Booth

Company Name: Quality Wood Products
Address City IN Zip: 2933 Thorne Drive, Elkhart, IN 46514
Registration: 039-16465-00571
Reviewer: ERG/YC
Date: October 11, 2002

Material	Density (Lb/Gal)	Maximum Throughput (unit/hr)	Maximum Usage (gal/unit)	Weight % Xylene	Xylene Emissions (tons/yr)	Weight % Ethylbenzene	Ethylbenzene Emissions (tons/yr)	Weight % Methanol	Methanol Emissions (tons/yr)	Weight % Toluene	Toluene Emissions (tons/yr)	Weight % MEK	MEK Emissions (tons/yr)	Weight % MIBK	MIBK Emissions (tons/yr)
St-1085	7.66	40.0	0.00007	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
St-1044	6.58	40.0	0.00020	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
St-1043	6.66	40.0	0.00010	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
St-1141	6.74	40.0	0.00007	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
35-0509b	7.56	40.0	0.00700	6.75%	**0.63**	1.36%	**0.13**	0.03%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
CCS-972	6.64	40.0	0.00005	0.00%	0.00	0.00%	0.00	1.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
D&L Blend	7.01	40.0	0.00020	0.00%	0.00	0.00%	0.00	0.00%	0.00	50.00%	0.12	18.00%	0.04	0.00%	0.00
WS-1882XF	7.67	40.0	0.00070	5.00%	0.05	0.00%	0.00	7.00%	**0.07**	59.00%	**0.55**	7.00%	**0.07**	0.00%	0.00
WS1671XF	7.15	40.0	0.00030	50.00%	0.19	0.00%	0.00	6.00%	0.02	0.00%	0.00	0.00%	0.00	0.00%	0.00
WS1413	7.18	40.0	0.00070	50.33%	0.44	0.00%	0.00	5.76%	0.05	0.00%	0.00	0.00%	0.00	0.00%	0.00
***Total (worst case)**					**0.63**		**0.13**		**0.07**		**0.55**		**0.07**		**0.00**
Cleaning Solvent (4-PLT)	7.01	40.0	0.00020	0.00%	0.00	0.00%	0.00	9.45%	0.02	62.11%	0.15	9.57%	0.02	9.53%	**0.02**
Total					**0.63**		**0.13**		**0.09**		**0.71**		**0.09**		**0.02**

* Only one type of coating can be applied for the booth at one time. Therefore, the worst case scenario is the one which has the highest HAP emissions.

Total HAPs **1.66 tons/yr**

METHODOLOGY
HAPs emission rate (tons/yr) = Density (lb/gal) x Max. Throughput (unit/hr) * Max. Usage (gal/unit) x Weight % HAP x 8760 hr/yr x 1 ton/2000 lbs

Appendix A: Emission Calculations
PM/PM10 Emissions
Woodworking and Plastic Machining Process

Company Name: Quality Wood Products
Address City IN Zip: 2933 Thorne Drive, Elkhart, IN 46514
Registration: 039-16465-00571
Reviewer: ERG/YC
Date: October 11, 2002

1. Woodworking Process Description:

Maximum Total Throughput:	100	lb/hr	
Total Saw Dust Collected:	2	lbs/hr	(for 4 dust collectors total, based on the test run by the source)
Control Device:	4	portable dust collectors	
Control Efficiency:	99%		(provided by the source)

Note: There is no grain loading information available for the dust collectors.

2. Potential to Emit PM/PM10:

***Hourly PM/PM10 Emissions** = 2 lbs/hr / 99% = **2.02 lbs/hr**

Annual PM/PM10 emissions = 2.02 lbs/hr x 8760 hr/yr x 1/2000 (ton/lb) = **8.85 tons/yr**

* Note: Assume all the PM emissions are PM10 emissions.

Appendix A: Emission Calculations
Natural Gas Combustion
(MMBtu/hr < 100)
From 4 Gas-Fired Heaters (0.16 MMBtu/hr Total)

Company Name: Quality Wood Products
Address City IN Zip: 2933 Thorne Drive, Elkhart, IN 46514
Registration: 039-16465-00571
Reviewer: ERG/YC
Date: October 11, 2002

Heat Input Capacity MMBtu/hr		Potential Throughput MMCF/yr
0.16	(4 units combined)	1.4

Pollutant

	PM*	PM10*	SO_2	**NO_x	VOC	CO
Emission Factor in lb/MMCF	7.6	7.6	0.6	100	5.5	84.0
Potential Emission in tons/yr	**0.01**	**0.01**	**4.2E-04**	**0.07**	**3.9E-03**	**0.06**

*PM and PM10 emission factors are condensable and filterable PM10 combined.
**Emission Factors for NO_x: Uncontrolled = 100, Low NO_x Burner = 50, Low NO_x Burners/Flue gas recirculation = 32

Methodology

All Emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF - 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors from AP-42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (AP-42 Supplement D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton