



Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

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

TO: Interested Parties / Applicant
DATE: January 10, 2008
RE: Cox Cabinet, Inc. / 033-25442-00048
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.dot 1/2/08



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We make Indiana a cleaner, healthier place to live.

Mitchell E. Daniels, Jr
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
(317) 232-8603
(800) 451-6027
www.IN.gov/idem

January 10, 2008

David Cox
Cox Cabinet, Inc.
1110 Fuller Drive
Garrett, IN 46738

Re: Registered Construction and Operation Status,
033-25442-00048

Dear Mr. David Cox:

The application from Cox Cabinet, Inc., received on October 23, 2007, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-5.5, it has been determined that the following stationary wood cabinet manufacturing plant located at 1110 Fuller Drive, Garrett, Indiana, is classified as registered:

- (a) One (1) woodworking operation electrically interlocked with and controlled by dust collector (DC1), and exhausted into the building. This woodworking operation consists of the following:
- (1) One (1) 24" rip saw, constructed in 1995, with a maximum throughput rate of 736.3 board feet per hour and 2,577 pounds of wood per hour.
 - (2) Two (2) molding machines, constructed in 1995, each with a maximum throughput rate of 228 board feet per hour and 798 pounds of wood per hour.
 - (3) Three (3) chop defect saws, constructed in 1995, each with a maximum throughput rate of 68 board feet per hour and 238 pounds of wood per hour.
 - (4) One (1) straight line rip saw, constructed in 1996, with a maximum throughput rate of 210 board feet per hour and 735 pounds of wood per hour.
 - (5) One (1) 12" rip saw, constructed in 1997, with a maximum throughput rate of 425 board feet per hour and 1,488 pounds of wood per hour.
 - (6) One (1) double end cutoff saw, constructed in 1997, with a maximum throughput rate of 1,428 board feet per hour and 4,998 pounds of wood per hour.
 - (7) One (1) high speed molding machine, constructed in 1997, with a maximum throughput rate of 697 board feet per hour and 2,440 pounds of wood per hour.
 - (8) One (1) wide belt sander, constructed in 2001, with a maximum throughput rate of 32 board feet per hour, and 112 pounds of wood per hour.
 - (9) Two (2) defect saws, constructed in 2002, each with a maximum throughput rate of 68 board feet per hour and 238 pounds of wood per hour.
 - (10) Two (2) profile sanders, constructed in 2002, each with a total maximum throughput rate of 498 board feet per hour and 1,743 pounds of wood per hour.

- (b) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour, including seven (7) natural gas fired space heaters, constructed after 1995, each with a maximum heat input rate of 0.78 MMBtu/hr.
- (c) Machining where an aqueous cutting coolant continuously floods the machining interface, including two (2) profile knife grinders.
- (d) Two (2) surface coating lines, constructed in 2001, using a vacuum coater while applying UV-curable coatings and using air atomized spray or wipe coating application while applying non-UV-curable coatings, with a maximum non-UV-curable coating usage of 0.4 gal/hr, controlled by dry filters.

The following conditions shall be applicable:

326 IAC 5-1-2 (Opacity Limitations)

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

- (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 non-overlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

326 IAC 6-4 (Fugitive Dust Emissions Limitations)

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

- (a) Pursuant to 326 IAC 6-3-2(e), the particulate from the dust collector, DC1, which is integral to the woodworking operations, shall be limited by the following:

| Unit | Max. Throughput Rate (lbs/hr) | Particulate Emission Limit (lbs/hr) |
|----------------------------|-------------------------------|-------------------------------------|
| 24" rip saw | 2,577 | 4.86 |
| Each molding machine | 798 | 2.22 |
| Each chop defect saw | 238 | 0.98 |
| Straight line rip saw | 735 | 2.10 |
| 12" rip saw | 1,488 | 3.36 |
| Double end cutoff saw | 4,998 | 7.57 |
| High speed molding machine | 2,440 | 4.68 |
| Wide belt sander | 112 | 0.59 |
| Each defect saw | 238 | 0.98 |
| Each profile sander | 1,743 | 3.74 |

The pounds per hour limitations above were calculated using 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:

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

Since dust collector DC1 is considered an integral part of the woodworking operations, particulate from the woodworking operation shall be controlled by dust collector DC1 at all times by an electrical interlock, and the Permittee shall operate the control device in accordance with manufacturer's specifications

- (b) Pursuant to 326 IAC 6-3-2(d), particulate from the finishing lines 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)

The surface coating lines were constructed after July 1, 1990 and the potential to emit VOC from each finishing line is 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.

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**

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 Rebecca Jacobs, OAQ, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana, 46204-2251, at 317-234-5378 or at 1-800-451-6027 (ext 45378).

Sincerely,

Original document signed by

Iryn Calilung, Section Chief
Permits Branch
Office of Air Quality

IC/rjj

cc: File - DeKalb County
DeKalb County Health Department
Air Compliance Section
IDEM Regional Office
Permit Tracking
Compliance Data Section
Permits Administrative and Development
Billing, Licensing and Training Section

| |
|---|
| 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: | Cox Cabinet, Inc. |
| Address: | 1110 Fuller Drive |
| Phone #: | Garrett, IN 46738 |
| Registration #: | R033-25442-00048 |

| |
|---|
| Certification by the Authorized Individual |
|---|

I hereby certify that Cox Cabinet, Inc., is still in operation and is in compliance with the requirements of Registration R033-25442-00048.

| |
|----------------------|
| Name (typed): |
|----------------------|

| |
|---------------|
| Title: |
|---------------|

| |
|-------------------|
| Signature: |
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| |
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| Phone Number: |
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| |
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| Date: |
|--------------|

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

Technical Support Document (TSD) for a Federally Enforceable State Operating Permit
(FESOP) transitioning to a Registration

Source Background and Description

| | |
|-----------------------|---|
| Source Name: | Cox Cabinet, Inc. |
| Source Location: | 1110 Fuller Drive, Garrett, Indiana 46738 |
| County: | DeKalb |
| SIC Code: | 2431 |
| Operation Permit No.: | 033-25442-00048 |
| Permit Reviewer: | Rebecca Jacobs |

The Office of Air Quality (OAQ) has reviewed an application from Cox Cabinet, Inc. relating to the operation of their existing wood cabinet manufacturing plant.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

- (a) One (1) woodworking operation electrically interlocked with and controlled by a dust collector (DC1), and exhausting into the building. This woodworking operation consists of the following:
 - (1) One (1) 24" rip saw, constructed in 1995, with a maximum throughput rate of 736.3 board feet per hour and 2,577 pounds of wood per hour.
 - (2) Two (2) molding machines, constructed in 1995, each with a maximum throughput rate of 228 board feet per hour and 798 pounds of wood per hour.
 - (3) Three (3) chop defect saws, constructed in 1995, each with a maximum throughput rate of 68 board feet per hour and 238 pounds of wood per hour.
- (b) One (1) straight line rip saw, constructed in 1996, with a maximum throughput rate of 210 board feet per hour and 735 pounds of wood per hour, controlled by the existing dust collector DC1 and exhausting into the building.
- (c) One (1) 12" rip saw, constructed in 1997, with a maximum throughput rate of 425 board feet per hour and 1,488 pounds of wood per hour, controlled by the existing dust collector DC1 and exhausting into the building.
- (d) One (1) double end cutoff saw, constructed in 1997, with a maximum throughput rate of 1,428 board feet per hour and 4,998 pounds of wood per hour, controlled by the existing dust collector DC1 and exhausting into the building.
- (e) One (1) high speed molding machine, constructed in 1997, with a maximum throughput rate of 697 board feet per hour and 2,440 pounds of wood per hour, controlled by the existing dust collector DC1 and exhausting into the building.
- (f) One (1) wide belt sander, constructed in 2001, with a maximum throughput rate of 32 board feet per hour, and 112 pounds of wood per hour, controlled by the existing dust collector DC1 and exhausting into the building.
- (g) Two (2) defect saws, constructed in 2002, each with a maximum throughput rate of 68 board feet per hour and 238 pounds of wood per hour, controlled by the existing dust collector DC1 and exhausting into the building.

- (h) Two (2) profile sanders, constructed in 2002, each with a total maximum throughput rate of 498 board feet per hour and 1,743 pounds of wood per hour, controlled by the existing dust collector DC1 and exhausting into the building.
- (i) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour, including seven (7) natural gas fired space heaters, constructed after 1995, each with a maximum heat input rate of 0.78 MMBtu/hr.
- (j) Machining where an aqueous cutting coolant continuously floods the machining interface, including two (2) profile knife grinders.
- (k) Two (2) surface coating lines, constructed in 2001, using a vacuum coater while applying UV-curable coatings and using air atomized spray or wipe coating application while applying non-UV-curable coatings, with a maximum non-UV-curable coating usage of 0.4 gal/hr, controlled by dry filters.

New Emission Units and Pollution Control Equipment

There are no new emission units or pollution control equipment at this source during this review process.

Existing Approvals

The source has been operating under the following previous approval, including, but not limited to, the following:

FESOP No. 033-15907-00048, issued on October 6, 2004.

Air Pollution Control Justification as an Integral Part of the Process

The source has supplemented the information submitted during the FESOP review with the following justification for the dust collector, DC1, to be considered as an integral part of the woodworking operation:

- (a) The primary purpose of the dust collector is to allow continuous operation of the woodworking equipment specifically the molders by keeping the cutting surface clear of large 0.5" x 0.5" wood chips that would clog the equipment every few minutes of operation and require the equipment to be shut down in order to clear the equipment to continue production.
- (b) All of the collected wood chips are sold and significantly offset the cost of operating the dust collector. In 2005, 1,376 tons of wood chips were sold for \$4,300, while the cost to maintain and operate the dust collector was \$5,150.
- (c) The dust collector is necessary to keep the cutting surface clear and the equipment from being clogged which would stop production every few minutes, so the source has electrically interlocked the control equipment with the woodworking equipment and would use the control equipment even without air quality regulations.

Based on this additional information, IDEM, OAQ has evaluated the justifications for the control equipment to be considered integral to the woodworking process and has determined that the dust collector meets the guidelines established by the U.S. EPA because: (1) the primary purpose of the dust collector is to facilitate production; (2) the cost of operating and maintaining the dust collection system is significantly offset by the revenue from the product collected; and (3) The woodworking equipment is electrically interlocked with the dust collector and would be in use without the air quality regulations to manage the production. Therefore, based upon satisfying the three guidelines for determining integral equipment, the permitting level will be determined using

the potential to emit after the dust collector. This determination was different from the determination made during the FESOP review.

Recommendation

The staff recommends to the Commissioner that the Registration 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 was received on October 23, 2007. Additional information was received on October 30, 2007 and November 26, 2007.

Emission Calculations

See Appendix A of this document for detailed emission calculations (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.”

| Process/Emission Unit | Potential To Emit (tons/year) | | | | | | |
|--|-------------------------------|-------------|-----------------|-------------|-------------|-----------------|-------------|
| | PM | PM-10 | SO ₂ | VOC | CO | NO _x | HAPs |
| Woodworking Operation | 4.75 | 4.75 | - | - | - | - | - |
| NG Combustion (Insignificant) | 0.05 | 0.18 | 0.01 | 0.13 | 2.01 | 2.39 | Negligible |
| Two (2) Finishing Lines (Insignificant) | 3.48 | 3.48 | - | 3.60 | - | - | 0.78 |
| Total Emissions | 8.28 | 8.41 | 0.01 | 3.73 | 2.01 | 2.39 | 0.78 |

- (a) The potential to emit (as defined in 326 IAC 2-1.1-1(16) of PM and PM10 are each greater than 5 tons per year but less than 25 tons per year. The potential to emit of all other regulated criteria pollutants is less than 25 tons per year each. Therefore the source is subject to the provisions of 326 IAC 2-5.5 (Registration) and a Registration will be issued. The Registration will supersede the FESOP F033-15907-00048 issued on October 6, 2004.

County Attainment Status

The source is located in DeKalb County.

| Pollutant | Status |
|-----------------|------------|
| PM-2.5 | Attainment |
| PM-10 | Attainment |
| SO ₂ | Attainment |
| NO ₂ | Attainment |
| 8 hour Ozone | Attainment |
| CO | Attainment |
| Lead | Attainment |

(a) Ozone Standards

- (1) 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.
- (2) On September 6, 2007, the Indiana Air Pollution Control Board finalized a temporary emergency rule to re-designate Allen, Clark, Elkhart, Floyd, LaPorte, St. Joseph as attainment for the 8-hour ozone standard.
- (3) On November 9, 2007, the Indiana Air Pollution Control Board finalized a temporary emergency rule to re-designate Boone, Clark, Elkhart, Floyd, LaPorte, Hamilton, Hancock, Hendricks, Johnson, Madison, Marion, Morgan, Shelby, and St. Joseph as attainment for the 8-hour ozone standard.
- (4) 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 ozone. DeKalb County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(b) PM 2.5 Standards

DeKalb County has been classified as attainment for PM2.5. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM2.5 emissions. Therefore, until the U.S. EPA adopts specific provisions for PSD review for PM2.5 emissions, it has directed states to regulate PM10 emissions as a surrogate for PM2.5 emissions.

(c) Other Criteria Pollutants

DeKalb County has been classified as attainment or unclassifiable in Indiana for SO₂, NO₂, CO and Lead. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

- (a) The fugitive emissions of criteria pollutants and hazardous air pollutants are counted toward the determination of 326 IAC 2-5.5 (Registration) applicability.
- (b) Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2, 326 IAC 2-3, or 326 IAC 2-7, and there is no applicable New Source Performance Standard that was in effect on August 7, 1980, fugitive emissions are not counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in this Registration.
- (b) The source does not perform surface coating operations to metal furniture. Therefore, the requirements of the New Source Performance Standards for Surface Coating of Metal Furniture (40 CFR Part 60.310 -60.316, Subpart EE) are not included in this Registration.
- (c) There are no National Emission Standards for Hazardous Air Pollutants (NESHAP)(326 IAC 14, 20 and 40 CFR Part 61, 63) included in this Registration.

- (d) This existing wood cabinet manufacturing plant does not have potential HAPs emissions greater than 10 tons/yr for a single HAP and greater than 25 tons/yr for any combination of HAPs. Therefore, the requirements of the National Emission Standards for Wood Furniture Manufacturing Operations (326 IAC 20-14, 40 CFR 63.800 - 63.808, Subpart JJ) are not included in this Registration.

State Rule Applicability – Entire Source

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

The source was constructed in 1995 and modified in 1996, 1997, 2001, and 2002. This source is not in 1 of 28 source categories defined in 326 IAC 2-2-1(gg)(1) and the potential to emit of all criteria pollutants is less than 250 tons/yr.

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

The source was constructed in 1995 and modified in 2001. The potential to emit HAPs from the entire source is less than 10 tons/yr for a single HAP and less than 25 tons/yr for any combination HAPs. Therefore, the requirements of 326 IAC 2-4.1 are not applicable.

326 IAC 2-8-4 (FESOP)

Because the dust collector is integral to the woodworking process the potential to emit PM/PM10 is determined after the dust collector. According to the emission calculations (see Appendix A), the potential to emit PM10 is below 100 tons/yr, and therefore the requirements of 326 IAC 2-7 are not applicable.

326 IAC 2-6 (Emission Reporting)

This source is located in DeKalb County. The potential to emit of all criteria pollutants is less than one hundred (100) tons per year, and the potential to emit lead is less 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 the 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.

326 IAC 6-4 (Fugitive Dust Emissions Limitations)

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.

State Rule Applicability – Woodworking Operation

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

Particulate emissions from each of woodworking units shall be limited to the emission limits listed in the table below:

| Unit | Max. Throughput Rate (lbs/hr) | Particulate Emission Limit (lbs/hr) |
|----------------------------|----------------------------------|--|
| 24" rip saw | 2,577 | 4.86 |
| Each moulding machine | 798 | 2.22 |
| Each chop defect saw | 238 | 0.98 |
| Straight line rip saw | 735 | 2.10 |
| 12" rip saw | 1,488 | 3.36 |
| Double end cutoff saw | 4,998 | 7.57 |
| High speed molding machine | 2,440 | 4.68 |
| Wide belt sander | 112 | 0.59 |
| Each defect saw | 238 | 0.98 |
| Each profile sander | 1,743 | 3.74 |

The pounds per hour limitations above were calculated using 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:

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

IDEM, OAQ has agreed that dust collector DC1 will be considered as an integral part of the woodworking operations and the potential to emit particulate (PM/PM10) will be determined after the dust collector.

Since dust collector DC1 is considered an integral part of the woodworking operations and is necessary to comply with the requirements of 326 IAC 6-3-2, particulate from the woodworking operation shall be controlled by dust collector DC1 at all times by an electrical interlock, and the Permittee shall operate the control device in accordance with manufacturer's specifications

State Rule Applicability – Two (2) Finishing Lines

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

The surface coating lines were constructed after July 1, 1990 and the potential to emit VOC from each finishing line is 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.

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

Although constructed after January 1, 1980, 326 IAC 8-1-6 is not applicable because the requirements of 326 IAC 8-2-12 apply to these lines.

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

Pursuant to 326 IAC 6-3-2(d), particulate from the finishing lines 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.

State Rule Applicability – Natural Gas Combustion Sources

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

The natural gas-fired space heaters 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)

The natural gas-fired space heaters are each exempt from the requirements of 326 IAC 6-3, since they each are not considered a manufacturing process.

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

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

Compliance Determination, Monitoring, and Testing Requirements

There are no compliance determination, monitoring, or testing requirements included in this Registration.

Conclusion

The operation of this wood cabinet manufacturing plant shall be subject to the conditions of the Registration 033-25442-00048.

Appendix A: Emissions Calculations
PM/PM10 Emissions
From One (1) Woodworking Operation

Company Name: Cox Cabinet, Inc.
Address: 1110 Fuller Drive, Garrett, IN 46738
Registration No.: 033-25442-00048
Reviewer: Rebecca Jacobs
Date: December 10, 2007

Woodworking Process Discription:

PM Control Equipment: Baghouse
Grain Loading: 0.008 grains/acf
Air Flow Rate: 15,800 acf/m
Control Efficiency: 99.82%

Potential to Emit After Integral Control:

Assume all the PM emissions are equal to PM10 emissions.

| | | |
|---------------------------------|---|---------------------|
| Hourly PM/PM10 Emissions | = 0.008 (gr/acf) x 15,800 (acf/min) x 60 (min/hr) x 1/7000 (lbs/gr) = | 1.08 lbs/hr |
| Annual PM/PM10 emissions | = 1.08 lbs/hr x 8760 hr/yr x 1 ton/2000 lbs = | 4.75 tons/yr |

**Appendix A: Emission Calculations
VOC and PM/PM10 Emissions
From Two (2) Finishing Lines**

**Company Name: Cox Cabinet, Inc.
Address: 1110 Fuller Drive, Garrett, IN 46738
Registration No.: 033-25442-00048
Reviewer: Rebecca Jacobs
Date: December 10, 2007**

These coating operations use vacuum coaters for UV-curable coatings, which have no VOC or PM emissions. A small amount of non-UV-coatings are applied on one of the lines and are applied by spray coating or wipe coating method.

| Coating | Density (Lb/Gal) | Weight % Volatile (H ₂ O & Organics) | Weight % Water | Weight % Organics | *Maximum Usage (gal/hr) | Pounds VOC per gallon of coating | PTE of VOC (lbs/hr) | PTE of VOC (lbs/day) | PTE of VOC (tons/yr) | *PTE of PM/PM10 before Control (lbs/hr) | *PTE of PM/PM10 before Control (ton/yr) | Transfer Efficiency |
|-----------------------------|------------------|---|----------------|-------------------|-------------------------|----------------------------------|---------------------|----------------------|----------------------|---|---|---------------------|
| Mahogany | 7.02 | 29.3% | 0.0% | 29.3% | 0.4 | 2.06 | 0.82 | 19.7 | 3.60 | 0.79 | 3.48 | 60% |
| Cherry | 4.84 | 15.0% | 0.0% | 15.0% | 0.4 | 0.73 | 0.29 | 6.97 | 1.27 | 0.66 | 2.88 | 60% |
| **Total (Worst Case) | | | | | | | 0.82 | 19.7 | 3.60 | | 3.48 | |

* This is the maximum usage for all non-UV curable coating operations.

** Total PTE is the worst case scenario between these 2 coatings.

METHODOLOGY

Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)

PTE of VOC (lbs/hr) = Pounds of VOC per Gallon coating (lb/gal) * Max. Usage (gal/hr)

PTE of VOC (lbs/day) = Pounds of VOC per Gallon coating (lb/gal) * Max. Usage (gal/hr) * (24 hr/day)

PTE of VOC (tons/yr) = Pounds of VOC per Gallon coating (lb/gal) * Max. Usage (gal/hr) * (8760 hr/yr) * (1 ton/2000 lbs)

PTE of PM/PM10 before Control (lbs/hr) = Max. Usage (gal/hr) * Density (lbs/gal) * (1- Weight % Volatile) * (1-Transfer efficiency)

PTE of PM/PM10 before Control (tons/yr) = Max. Usage (gal/hr) * Density (lbs/gal) * (1- Weight % Volatile) * (1-Transfer efficiency) * (8760 hrs/yr) * (1 ton/2000 lbs)

**Appendix A: Emission Calculations
HAP Emissions
From Two (2) Finishing Lines**

**Company Name: Cox Cabinet, Inc.
Address: 1110 Fuller Drive, Garrett, IN 46738
Registration No.: 033-25442-00048
Reviewer: Rebecca Jacobs
Date: December 10, 2007**

| Coating | Density (lbs/gal) | *Maximum Usage (gal/hr) | Weight % MEK | PTE of MEK (tons/yr) | Weight % Glycol Ethers | PTE of Glycol Ethers (tons/yr) |
|-----------------------------|----------------------|----------------------------|--------------|-------------------------|---------------------------|-----------------------------------|
| Mahogany | 7.02 | 0.4 | 0.79% | 0.10 | 0.00% | 0.00 |
| Cherry | 4.84 | 0.4 | 0.00% | 0.00 | 8.00% | 0.68 |
| **Total (worst case) | | | | 0.10 | | 0.68 |

* This is the maximum usage for all non-UV curable coating operations.

** Total PTE is the worst case scenario between these 2 coatings.

METHODOLOGY

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

**Appendix A: Emission Calculations
Natural Gas Combustion
(MMBtu/hr < 100)
From Seven (7) Space Heaters**

**Company Name: Cox Cabinet, Inc.
Address: 1110 Fuller Drive, Garrett, IN 46738
Registration No.: 033-25442-00048
Reviewer: Rebecca Jacobs
Date: December 10, 2007**

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

5.46 (7 units total)

47.8

| | Pollutant | | | | | |
|--------------------------------------|-------------|-------------|-----------------|-------------------|-------------|-------------|
| | PM* | PM10* | SO ₂ | **NO _x | VOC | CO |
| Emission Factor in lbs/MMCF | 1.9 | 7.6 | 0.6 | 100.0 | 5.5 | 84.0 |
| Potential Emission in tons/yr | 0.05 | 0.18 | 0.01 | 2.39 | 0.13 | 2.01 |

*PM and PM10 emission factors are condensable and filterable PM10 combined.

**Emission Factors for NO_x: Uncontrolled = 100.

Emission factors are 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)

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/yr) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Potential to Emit (tons/yr) = Potential Throughput (MMCF/yr) x Emission Factor (lbs/MMCF) x 1 ton/2000 lbs