

Merillat.

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October 7, 2004

BUREAU OF AIR REGULATION

Mr. Al Linero  
Division of Air Resource Management  
Florida Department of Environmental Protection  
2600 Blair Stone Road MS 5500  
Tallahassee, FL 32399-2400

Re: Air Permit Application  
Merillat Corporation – Ocala Facility (Facility ID No.: 0830137)

Dear Mr. Linero:

Please find enclosed four signed copies of the Air Construction & Revised Title V Permit Application for the Merillat Corporation - Ocala Facility. In response to a recent increase in consumer demand for our products, this application addresses our request for approval to install new manufacturing equipment for the production of additional wood cabinets. The application was prepared on the basis that our proposed modification is subject to Prevention of Significant Deterioration (PSD) review for emissions of volatile organic compounds (VOCs). We have enclosed a check in the amount of \$7,750.00 to cover the applicable permit application fees.

Please contact Donna Tackett, our Environmental, Health, and Safety Coordinator, at (352) 291-4622 if you have any questions or require additional information.

Sincerely,



Michael Stickle  
Plant Manager

MERILLAT CORPORATION

Enclosures

**MALCOLM  
PIRNIE**

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OCT 12 2004

BUREAU OF AIR REGULATION

**AIR CONSTRUCTION PERMIT  
& REVISED TITLE V PERMIT  
APPLICATION**

**MERILLAT CORPORATION  
OCALA FACILITY**



**Merillat.**

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**OCTOBER 2004**

**Prepared by:**

**MALCOLM PIRNIE, INC.  
701 Town Center Drive, Suite 600  
Newport News, Virginia 23606**

2767-024

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A	Process Description and Emission Calculations
B	BACT Analysis
C	Compliance Report & Certification

**INTRODUCTION & PSD  
APPLICABILITY**

Merillat Corporation (Merillat), a division of Merillat Industries, LLC and owned by the MASCO Corporation, currently operates a wood furniture manufacturing facility in Ocala, Florida. The operations at the facility include woodworking and finishing operations for the manufacturing of kitchen and bath cabinets. The woodworking operations include machinery for manufacturing wood cabinet frames and doors. Baghouse dust collection systems are operated to minimize emissions of particulate matter from the woodworking operations. The finishing operations involve the application of stains, toners, sealers, top-coatings, glazes and other specialty finishes to the wood cabinet components and generate emissions of volatile organic compounds (VOCs) and hazardous air pollutants (HAPs).

Merillat received authorization to construct and operate the Ocala facility via a construction permit issued by the Florida Department of Environmental Protection (DEP) in 1999. Additionally, the Ocala facility is subject to Title V permitting requirements (as a major source of VOCs and HAPs) and operates under a Title V operating permit issued by DEP in 2001. As a major source of HAPs, the facility is also subject to requirements under 40 CFR Part 63, Subpart JJ – National Emission Standards for Wood Furniture Manufacturing Operations. The facility is currently limited by permit to 249 tons per year of VOC emissions. This emission limit is less than the 250 tons per year major source threshold under the Prevention of Significant Deterioration (PSD) provisions. Therefore, the Ocala facility is presently considered a minor source with respect to PSD permitting requirements.

To address an increase in consumer demand for wood cabinets, Merillat is proposing to modify the Ocala facility by installing additional equipment (new spray booths, curing ovens, and ancillary equipment). Operation of this new equipment will allow for the production of additional wood cabinets at the facility and result in an increase in air pollutant emissions (primarily VOCs and HAPs). Consequently, Merillat is requesting a new VOC emission limit for the facility of 411 tons per year. The installation of the new equipment is planned for the 1<sup>st</sup> and 2<sup>nd</sup> quarters of 2005 with start-up of this equipment by mid-2005.

Considering the proposed VOC emissions increase and past actual VOC emissions from the Ocala facility, a review of PSD applicability under §62-212.400 of the Florida Administrative Code was completed. As shown in the table below, an evaluation of past actual VOC emissions and future potential facility emissions shows a net emissions increase less than 250 tons per year.

VOC Emissions	Tons/Yr
Current VOC Emission Limit	249
Proposed VOC Emission Limit (future potential emissions)	411
Past Actual VOC Emissions (2-year average over past 24-months)	166
Net Emissions Increase (future potential – past actual emissions)	245

Since the net emissions increase in VOC emissions is below the 250 tons/year PSD major source threshold, the proposed modification seemingly qualifies as a minor modification and is thereby exempt from PSD review. Notwithstanding the above and in recognition of the types of emissions generating

units that constitute the finishing operations, as well as the lengthy construction period associated with the construction of the current facility, DEP has recommended that the proposed modification be treated as a modification subject to PSD preconstruction review. Therefore, Merillat has prepared this permit application to satisfy preconstruction review requirements in accordance with PSD permitting provisions.

To determine which pollutants are subject to PSD review (under the assumption that the facility is currently considered a PSD major source although the facility is currently limited by permit to 249 tons/year of VOC emissions), future potential emissions estimates were calculated to determine the net emissions increase associated with the proposed modification. For simplicity, past actual emissions for all pollutants except VOC were assumed to be negligible. Below is a summary of net emission increases associated with the proposed modification and corresponding PSD significant emission rate thresholds.

Pollutant	Net Emissions Increase*	PSD Significant Emission Rate Threshold	Subject to PSD Review?
Carbon Monoxide (CO)	7.8	100	No
Nitrogen Oxides (NO <sub>x</sub> )	9.3	40	No
Sulfur Dioxide (SO <sub>2</sub> )	0.1	40	No
Ozone – VOC	245	40	Yes
Particulate Matter	2.7	25	No
PM10	2.7	15	No

\* For simplicity, the net emissions increase shown is equivalent to future potential emissions for the modified facility (ignoring past actual emissions) for all pollutants except VOC.

The above table indicates that the only pollutant subject to PSD review is VOC. As such, this permit application was prepared to satisfy PSD permitting requirements for VOC, as well as preconstruction and Title V permitting requirements in accordance with DEP guidelines. Certain items typically associated with PSD preconstruction review including an ambient impact analysis are not included in this permit application since the only pollutant subject to PSD review is VOC. Additionally, Merillat requests an exemption from preconstruction air quality monitoring on the basis that representative ozone monitoring data is available for the Ocala area. The following items are included in this permit application:

Item	Section
Introduction and PSD Applicability	1
DEP Form No. 62-210.900(1) Application for Air Construction Permit & Title V Permit Revision	2
Process Description and Emission Calculations	Appendix A
BACT Analysis	Appendix B
Compliance Report and Certification	Appendix C

**MALCOLM  
PIRNIE**

**SECTION 2.0**

**DEP PERMIT APPLICATION FORM  
No. 62-210.900(1)**

A completed DEP Form No. 62-210.900(1) is presented in this section for authorization to modify the Merillat-Ocala facility. This application covers Merillat's request for the issuance of an air construction permit and revision to the effective Title V air operation permit for the Ocala facility.



# Department of Environmental Protection

## Division of Air Resource Management

### APPLICATION FOR AIR PERMIT - LONG FORM

#### I. APPLICATION INFORMATION

**Air Construction Permit** – Use this form to apply for an air construction permit for a proposed project:

- subject to prevention of significant deterioration (PSD) review, nonattainment area (NAA) new source review, or maximum achievable control technology (MACT) review; or
- where the applicant proposes to assume a restriction on the potential emissions of one or more pollutants to escape a federal program requirement such as PSD review, NAA new source review, Title V, or MACT; or
- at an existing federally enforceable state air operation permit (FESOP) or Title V permitted facility.

**Air Operation Permit** – Use this form to apply for:

- an initial federally enforceable state air operation permit (FESOP); or
- an initial/revised/renewal Title V air operation permit.

**Air Construction Permit & Revised/Renewal Title V Air Operation Permit (Concurrent Processing Option)**  
– Use this form to apply for both an air construction permit and a revised or renewal Title V air operation permit incorporating the proposed project.

To ensure accuracy, please see form instructions.

#### Identification of Facility

1. Facility Owner/Company Name: Merrillat Corporation	
2. Site Name: Merrillat-Ocala	
3. Facility Identification Number: 0830137	
4. Facility Location... Street Address or Other Locator: 1300 S. W. 38 <sup>th</sup> Avenue City: Ocala                                  County: Marion                                  Zip Code: 34474	
5. Relocatable Facility? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6. Existing Title V Permitted Facility? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

#### Application Contact

1. Application Contact Name: Donna Tackett, Environmental, Health and Safety Coordinator	
2. Application Contact Mailing Address... Organization/Firm: Merrillat Corporation Street Address: 1300 S. W. 38 <sup>th</sup> Avenue City: Ocala                                  State: FL                                  Zip Code: 34474	
3. Application Contact Telephone Numbers... Telephone: (352) 291-4622                                  Fax: (352) 291-4603	
4. Application Contact Email Address: DTackett@Merrillat.com	

#### Application Processing Information (DEP Use)

1. Date of Receipt of Application:	10-12-04
2. Project Number(s):	0830137-003-AC      0830137-004-AV
3. PSD Number (if applicable):	PSD-FL-347
4. Siting Number (if applicable):	

## APPLICATION INFORMATION

### Purpose of Application

**This application for air permit is submitted to obtain: (Check one)**

#### **Air Construction Permit**

Air construction permit.

#### **Air Operation Permit**

Initial Title V air operation permit.

Title V air operation permit revision.

Title V air operation permit renewal.

Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is required.

Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is not required.

#### **Air Construction Permit and Revised/Renewal Title V Air Operation Permit (Concurrent Processing)**

Air construction permit and Title V permit revision, incorporating the proposed project.

Air construction permit and Title V permit renewal, incorporating the proposed project.

**Note: By checking one of the above two boxes, you, the applicant, are requesting concurrent processing pursuant to Rule 62-213.405, F.A.C. In such case, you must also check the following box:**

I hereby request that the department waive the processing time requirements of the air construction permit to accommodate the processing time frames of the Title V air operation permit.

### Application Comment





# APPLICATION INFORMATION

## Owner/Authorized Representative Statement

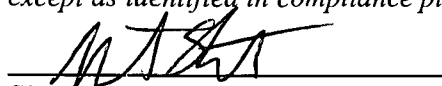
**Complete if applying for an air construction permit or an initial FESOP.**

1. Owner/Authorized Representative Name :
2. Owner/Authorized Representative Mailing Address... Organization/Firm: Street Address: City: State: Zip Code:
3. Owner/Authorized Representative Telephone Numbers... Telephone: ( ) - Fax: ( ) -
4. Owner/Authorized Representative Email Address:
5. Owner/Authorized Representative Statement:  <i>I, the undersigned, am the owner or authorized representative of the facility addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other requirements identified in this application to which the facility is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit.</i>  _____ Signature  _____ Date

# APPLICATION INFORMATION

## Application Responsible Official Certification

Complete if applying for an initial/revised/renewal Title V permit or concurrent processing of an air construction permit and a revised/renewal Title V permit. If there are multiple responsible officials, the "application responsible official" need not be the "primary responsible official."

1. Application Responsible Official Name: Mike Stickles
2. Application Responsible Official Qualification (Check one or more of the following options, as applicable): <input checked="" type="checkbox"/> For a corporation, the president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit under Chapter 62-213, F.A.C. <input type="checkbox"/> For a partnership or sole proprietorship, a general partner or the proprietor, respectively. <input type="checkbox"/> For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official. <input type="checkbox"/> The designated representative at an Acid Rain source.
3. Application Responsible Official Mailing Address... Organization/Firm: Merrillat Corporation Street Address: 1300 S. W. 38 <sup>th</sup> Avenue City: Ocala State: FL Zip Code: 34474
4. Application Responsible Official Telephone Numbers... Telephone: (352) 291-4610 Fax: (352) 291-4601
5. Application Responsible Official Email Address: MStickles@Merrillat.com
6. Application Responsible Official Certification: <i>I, the undersigned, am a responsible official of the Title V source addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other applicable requirements identified in this application to which the Title V source is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit. Finally, I certify that the facility and each emissions unit are in compliance with all applicable requirements to which they are subject, except as identified in compliance plan(s) submitted with this application.</i>  Signature  Date <u>10-11-04</u>

**APPLICATION INFORMATION**

**Professional Engineer Certification**

1. Professional Engineer Name: David Cibik Registration Number: 55467
2. Professional Engineer Mailing Address... Organization/Firm: Malcolm Pirnie, Inc. Street Address: 1715 East 9 <sup>th</sup> Avenue City: Tampa State: Florida Zip Code: 33605
3. Professional Engineer Telephone Numbers... Telephone: (813) 248-6900 ext. 166 Fax: (813) 248-8085
4. Professional Engineer Email Address: Dcibik@pirnie.com
5. Professional Engineer Statement: <i>I, the undersigned, hereby certify, except as particularly noted herein*, that:</i> <i>(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this application for air permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and</i> <i>(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.</i> <i>(3) If the purpose of this application is to obtain a Title V air operation permit (check here <input type="checkbox"/> , if so), I further certify that each emissions unit described in this application for air permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance plan and schedule is submitted with this application.</i> <i>(4) If the purpose of this application is to obtain an air construction permit (check here <input type="checkbox"/> , if so) or concurrently process and obtain an air construction permit and a Title V air operation permit revision or renewal for one or more proposed new or modified emissions units (check here <input checked="" type="checkbox"/> , if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.</i> <i>(5) If the purpose of this application is to obtain an initial air operation permit or operation permit revision or renewal for one or more newly constructed or modified emissions units (check here <input type="checkbox"/> , if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.</i>  Signature <u>David Cibik</u> Date <u>10/5/04</u> (seal) NO. 55467

\* Attach any exceptions to certification statement.



## FACILITY INFORMATION

### Facility Regulatory Classifications

Check all that would apply *following* completion of all projects and implementation of all other changes proposed in this application for air permit. Refer to instructions to distinguish between a "major source" and a "synthetic minor source."

1.	<input type="checkbox"/> Small Business Stationary Source	<input type="checkbox"/> Unknown
2.	<input type="checkbox"/> Synthetic Non-Title V Source	
3.	<input checked="" type="checkbox"/> Title V Source	
4.	<input checked="" type="checkbox"/> Major Source of Air Pollutants, Other than Hazardous Air Pollutants (HAPs)	
5.	<input type="checkbox"/> Synthetic Minor Source of Air Pollutants, Other than HAPs	
6.	<input checked="" type="checkbox"/> Major Source of Hazardous Air Pollutants (HAPs)	
7.	<input type="checkbox"/> Synthetic Minor Source of HAPs	
8.	<input type="checkbox"/> One or More Emissions Units Subject to NSPS (40 CFR Part 60)	
9.	<input type="checkbox"/> One or More Emissions Units Subject to Emission Guidelines (40 CFR Part 60)	
10.	<input checked="" type="checkbox"/> One or More Emissions Units Subject to NESHAP (40 CFR Part 61 or Part 63)	
11.	<input type="checkbox"/> Title V Source Solely by EPA Designation (40 CFR 70.3(a)(5))	
12.	Facility Regulatory Classifications Comment:  The facility is a major source of VOC emissions based on potential VOC emissions greater than 100 tons/year and a major source of HAP emissions based on potential HAP emissions above the 10/25 tons per year thresholds.	







FACILITY INFORMATION

C. FACILITY ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Facility Plot Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)  
 Attached, Document ID: \_\_\_\_\_  Previously Submitted, Date: \_\_\_\_\_  
 Note: A waiver is requested on the basis that the proposed modification will not alter the current facility plot plan and an air quality modeling analysis is not required as part of this application.

2. Process Flow Diagram(s): (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)  
 Attached, Document ID: Figures 1,2 in Appendix A  Previously Submitted, Date: \_\_\_\_\_

3. Precautions to Prevent Emissions of Unconfined Particulate Matter: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)  
 Attached, Document ID: \_\_\_\_\_  Previously Submitted, Date: \_\_\_\_\_  
 Note: This is considered not applicable since emissions of unconfined particulate matter are not anticipated from the proposed facility modification and operation. Activities such as land clearing, building demolition, and vehicle traffic on unpaved roads are not expected to occur during the installation of new facility equipment.

Additional Requirements for Air Construction Permit Applications

1. Area Map Showing Facility Location:  
 Attached, Document ID: \_\_\_\_\_  Not Applicable (existing permitted facility)

2. Description of Proposed Construction or Modification:  
 Attached, Document ID: see Section 1 of this Permit Application

3. Rule Applicability Analysis:  
 Attached, Document ID: see Section 1 of this Permit Application

4. List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.):  
 Attached, Document ID: \_\_\_\_\_  Not Applicable (no exempt units at facility)  
 Note: Multiple natural gas fired-units are operated each with a maximum rated heat input capacity < 5 MMBtu/hr.

5. Fugitive Emissions Identification (Rule 62-212.400(2), F.A.C.):  
 Attached, Document ID: \_\_\_\_\_  Not Applicable

6. Preconstruction Air Quality Monitoring and Analysis (Rule 62-212.400(5)(f), F.A.C.):  
 Attached, Document ID: \_\_\_\_\_  Not Applicable  
 Note: Merillat is requesting an exemption from preconstruction monitoring on the basis that representative ozone monitoring data is available for the Ocala area.

7. Ambient Impact Analysis (Rule 62-212.400(5)(d), F.A.C.):  
 Attached, Document ID: \_\_\_\_\_  Not Applicable  
 Note: An ambient impact (modeling) analysis is not required since the only pollutant subject to PSD review is VOC.

8. Air Quality Impact since 1977 (Rule 62-212.400(5)(h)5., F.A.C.):  
 Attached, Document ID: \_\_\_\_\_  Not Applicable  
 Note: A waiver is requested since the only pollutant subject to PSD review is VOC.

**FACILITY INFORMATION**

9. Additional Impact Analyses (Rules 62-212.400(5)(e)1. and 62-212.500(4)(e), F.A.C.):

Attached, Document ID: \_\_\_\_\_  Not Applicable

Note: A waiver is requested since the only pollutant subject to PSD review is VOC.

10. Alternative Analysis Requirement (Rule 62-212.500(4)(g), F.A.C.):

Attached, Document ID: \_\_\_\_\_  Not Applicable

**FACILITY INFORMATION**

**Additional Requirements for FESOP Applications**

1. List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.):  
 Attached, Document ID: \_\_\_\_\_  Not Applicable (no exempt units at facility)

**Additional Requirements for Title V Air Operation Permit Applications**

1. List of Insignificant Activities (Required for initial/renewal applications only):  
 Attached, Document ID: \_\_\_\_\_  Not Applicable (revision application)
2. Identification of Applicable Requirements (Required for initial/renewal applications, and for revision applications if this information would be changed as a result of the revision being sought):  
 Attached, Document ID: \_\_\_\_\_  
 Not Applicable (revision application with no change in applicable requirements)
3. Compliance Report and Plan (Required for all initial/revision/renewal applications):  
 Attached, Document ID: see Appendix C of this Permit Application  
Note: A compliance plan must be submitted for each emissions unit that is not in compliance with all applicable requirements at the time of application and/or at any time during application processing. The department must be notified of any changes in compliance status during application processing.
4. List of Equipment/Activities Regulated under Title VI (If applicable, required for initial/renewal applications only):  
 Attached, Document ID: \_\_\_\_\_  
 Equipment/Activities On site but Not Required to be Individually Listed  
 Not Applicable
5. Verification of Risk Management Plan Submission to EPA (If applicable, required for initial/renewal applications only) :  
 Attached, Document ID: \_\_\_\_\_  Not Applicable
6. Requested Changes to Current Title V Air Operation Permit:  
 Attached, Document ID: See note below:  Not Applicable  
Note: The only requested change to the current Title V permit is an increase to the VOC emission limit from 249 tons/year to 411 tons/year.

**Additional Requirements Comment**

## EMISSIONS UNIT INFORMATION

Section [ 1 ] of [ 2 ]

### III. EMISSIONS UNIT INFORMATION

**Title V Air Operation Permit Application** - For Title V air operation permitting only, emissions units are classified as regulated, unregulated, or insignificant. If this is an application for Title V air operation permit, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each regulated and unregulated emissions unit addressed in this application for air permit. Some of the subsections comprising the Emissions Unit Information Section of the form are optional for unregulated emissions units. Each such subsection is appropriately marked. Insignificant emissions units are required to be listed at Section II, Subsection C.

**Air Construction Permit or FESOP Application** - For air construction permitting or federally enforceable state air operation permitting, emissions units are classified as either subject to air permitting or exempt from air permitting. The concept of an "unregulated emissions unit" does not apply. If this is an application for air construction permit or FESOP, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air permitting are required to be listed at Section II, Subsection C.

**Air Construction Permit and Revised/Renewal Title V Air Operation Permit Application** - Where this application is used to apply for both an air construction permit and a revised/renewal Title V air operation permit, each emissions unit is classified as either subject to air permitting or exempt from air permitting for air construction permitting purposes and as regulated, unregulated, or insignificant for Title V air operation permitting purposes. **The air construction permitting classification must be used to complete the Emissions Unit Information Section of this application for air permit.** A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air construction permitting and insignificant emissions units are required to be listed at Section II, Subsection C.

If submitting the application form in hard copy, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application must be indicated in the space provided at the top of each page.

**EMISSIONS UNIT INFORMATION**

Section [1] of [2]

**A. GENERAL EMISSIONS UNIT INFORMATION**

**Title V Air Operation Permit Emissions Unit Classification**

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

**Emissions Unit Description and Status**

1. Type of Emissions Unit Addressed in this Section: (Check one)

This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Description of Emissions Unit Addressed in this Section:  
Miscellaneous woodworking equipment including saws, borers, routers, and shaping/carving, sanding and brushing machines.

3. Emissions Unit Identification Number: 1

4. Emissions Unit Status Code: A	5. Commence Construction Date: 1 <sup>st</sup> Qtr 2005	6. Initial Startup Date: 2 <sup>nd</sup> Qtr 2005	7. Emissions Unit Major Group SIC Code: 24	8. Acid Rain Unit? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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9. Package Unit:  
Manufacturer: N/A Model Number: N/A

10. Generator Nameplate Rating: MW

11. Emissions Unit Comment:

**EMISSIONS UNIT INFORMATION**

Section [1] of [2]

**Emissions Unit Control Equipment**

<p>1. Control Equipment/Method(s) Description:</p> <p>Baghouse (fabric filter) dust collection systems.</p>
<p>2. Control Device or Method Code(s): 018</p>

**EMISSIONS UNIT INFORMATION**

Section [1] of [2]

**B. EMISSIONS UNIT CAPACITY INFORMATION**

**(Optional for unregulated emissions units.)**

**Emissions Unit Operating Capacity and Schedule**

1. Maximum Process or Throughput Rate:
2. Maximum Production Rate: 4000 cabinets/day
3. Maximum Heat Input Rate: million Btu/hr
4. Maximum Incineration Rate: pounds/hr tons/day
5. Requested Maximum Operating Schedule: 24 hours/day 7 days/week 52 weeks/year 8,760 hours/year
6. Operating Capacity/Schedule Comment:  The facility is expected to operate on a 16 hours/day, 5 days/week, 250 days/year, 4,000 hours/year maximum operating schedule. However, periods of increased consumer demand for products may require extended periods of operation on a temporary basis.

**EMISSIONS UNIT INFORMATION**

Section [1] of [2]

**C. EMISSION POINT (STACK/VENT) INFORMATION**  
**(Optional for unregulated emissions units.)**

**Emission Point Description and Type**

1. Identification of Point on Plot Plan or Flow Diagram: See flow diagram (Figure 1) in Appendix A.		2. Emission Point Type Code: 3	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: Emissions from the woodworking operations are vented to common baghouse dust collection systems. There are three baghouse systems with a single exhaust stack for each baghouse.			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: Not applicable			
5. Discharge Type Code: V	6. Stack Height: 50 feet	7. Exit Diameter: 5 feet	
8. Exit Temperature: Ambient	9. Actual Volumetric Flow Rate: ~ 80,000 acfm	10. Water Vapor: %	
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates... Zone: East (km): North (km):		14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment:			



**EMISSIONS UNIT INFORMATION**

Section [1] of [2]

**D. SEGMENT (PROCESS/FUEL) INFORMATION**

**Segment Description and Rate:** Segment 1 of 1

1. Segment Description (Process/Fuel Type):  Miscellaneous woodworking operations (wood furniture manufacturing) – machining & sanding/planing operations		
2. Source Classification Code (SCC): 3-07-02-002 & 3-07-02-003		3. SCC Units: 1,000 board feet
4. Maximum Hourly Rate: see below	5. Maximum Annual Rate: see below	6. Estimated Annual Activity Factor: N/A
7. Maximum % Sulfur: N/A	8. Maximum % Ash: N/A	9. Million Btu per SCC Unit: N/A
10. Segment Comment: For above items 4. and 5., maximum hourly and annual rates correspond to the number of cabinets produced (not board feet processed). The estimated maximum cabinet assembly rate for the woodworking operations is 4000 cabinets/day.		

**Segment Description and Rate:** Segment \_\_ of \_\_

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):		3. SCC Units:
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

**EMISSIONS UNIT INFORMATION**

Section [1] of [2]

**D. SEGMENT (PROCESS/FUEL) INFORMATION (CONTINUED)**

**Segment Description and Rate:** Segment \_\_ of \_\_

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):		3. SCC Units:
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

**Segment Description and Rate:** Segment \_\_ of \_\_

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):		3. SCC Units:
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

**EMISSIONS UNIT INFORMATION**

Section [1] of [2]

**E. EMISSIONS UNIT POLLUTANTS**

**List of Pollutants Emitted by Emissions Unit**

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM, PM10	018	N/A	EL (VE limit)

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –  
 POTENTIAL/ESTIMATED FUGITIVE EMISSIONS**

(Optional for unregulated emissions units.)

**Potential/Estimated Fugitive Emissions**

**Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.**

1. Pollutant Emitted: PM, PM10	2. Total Percent Efficiency of Control: 99 – 99.9% estimated
3. Potential Emissions: 1.3 lb/hour                      2.0 tons/year	4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5. Range of Estimated Fugitive Emissions (as applicable): N/A	
6. Emission Factor:  Reference: N/A (process knowledge/material balance basis)	7. Emissions Method Code: 2
8. Calculation of Emissions:  See Appendix A for detailed emission calculations.	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -  
 ALLOWABLE EMISSIONS**

**Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.**

**Allowable Emissions** Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: N/A – see visible emissions information below in Section G.	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour                      tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

**Allowable Emissions** Allowable Emissions \_\_ of \_\_

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour                      tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

**Allowable Emissions** Allowable Emissions \_\_ of \_\_

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour                      tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

**EMISSIONS UNIT INFORMATION**

Section [1] of [2]

**G. VISIBLE EMISSIONS INFORMATION**

**Complete if this emissions unit is or would be subject to a unit-specific visible emissions limitation.**

**Visible Emissions Limitation:** Visible Emissions Limitation 1 of 1

1. Visible Emissions Subtype: VE05	2. Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: 5 % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: Initial visible emissions evaluation (VEE) conducted after start-up in accordance with EPA Method 9. Subsequent compliance demonstrations based on periodic visible emissions observations.	
5. Visible Emissions Comment:	

**Visible Emissions Limitation:** Visible Emissions Limitation \_\_\_ of \_\_\_

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

**EMISSIONS UNIT INFORMATION**

Section [1] of [2]

**H. CONTINUOUS MONITOR INFORMATION**

**Complete if this emissions unit is or would be subject to continuous monitoring.**

*Note: this section is not applicable*

**Continuous Monitoring System:** Continuous Monitor 1 of 1

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

**Continuous Monitoring System:** Continuous Monitor \_\_\_ of \_\_\_

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

**EMISSIONS UNIT INFORMATION**

Section [1] of [2]

**H. CONTINUOUS MONITOR INFORMATION (CONTINUED)**

Complete if this emissions unit is or would be subject to continuous monitoring.

*Note: this section is not applicable*

**Continuous Monitoring System:** Continuous Monitor 1 of 1

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

**Continuous Monitoring System:** Continuous Monitor \_\_\_ of \_\_\_

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	



**EMISSIONS UNIT INFORMATION**

Section [1] of [2]

**I. EMISSIONS UNIT ADDITIONAL INFORMATION**

**Additional Requirements for All Applications, Except as Otherwise Stated**

<p>1. Process Flow Diagram (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)</p> <p><input checked="" type="checkbox"/> Attached, Document ID: <u>see Figure 1 in Appendix A</u>    <input type="checkbox"/> Previously Submitted, Date _____</p>
<p>2. Fuel Analysis or Specification (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)</p> <p style="text-align: center;"><b>Not applicable</b></p> <p><input type="checkbox"/> Attached, Document ID: _____    <input type="checkbox"/> Previously Submitted, Date _____</p>
<p>3. Detailed Description of Control Equipment (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)</p> <p><input type="checkbox"/> Attached, Document ID: <u>See information below:</u>    <input type="checkbox"/> Previously Submitted, Date _____</p> <p>Control Equipment description: Baghouse (fabric filter) – control device code 018. Baghouse manufacturer: Waltz-Holtz Model number: DustStar 12-716-11066</p>
<p>4. Procedures for Startup and Shutdown (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)</p> <p><input type="checkbox"/> Attached, Document ID: _____    <input type="checkbox"/> Previously Submitted, Date _____</p> <p><input checked="" type="checkbox"/> Not Applicable (construction application)</p>
<p>5. Operation and Maintenance Plan (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)</p> <p><input type="checkbox"/> Attached, Document ID: _____    <input type="checkbox"/> Previously Submitted, Date _____</p> <p><input checked="" type="checkbox"/> Not Applicable</p>

6. Compliance Demonstration Reports/Records

Attached, Document ID: \_\_\_\_\_

Test Date(s)/Pollutant(s) Tested: \_\_\_\_\_

Previously Submitted, Date: 11/29/2000

Test Date(s)/Pollutant(s) Tested: Method 9 Test Report (PM/Opacity)

To be Submitted, Date (if known): \_\_\_\_\_

Test Date(s)/Pollutant(s) Tested: \_\_\_\_\_

Not Applicable

Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.

7. Other Information Required by Rule or Statute

Attached, Document ID: \_\_\_\_\_

Not Applicable

**EMISSIONS UNIT INFORMATION**

Section [1] of [2]

**Additional Requirements for Air Construction Permit Applications**

1. Control Technology Review and Analysis (Rules 62-212.400(6) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
2. Good Engineering Practice Stack Height Analysis (Rule 62-212.400(5)(h)6., F.A.C., and Rule 62-212.500(4)(f), F.A.C.) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
3. Description of Stack Sampling Facilities (Required for proposed new stack sampling facilities only) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

**Additional Requirements for Title V Air Operation Permit Applications**

1. Identification of Applicable Requirements <input type="checkbox"/> Attached, Document ID: <u>see information below:</u>  Applicable requirements specific to Unit ID 1: <ul style="list-style-type: none"><li>➤ 62-296.712(2) – PM emission limitations for Miscellaneous Manufacturing Process Operations. Note that 62-297.620(4) is proposed to satisfy emissions monitoring requirements in lieu of this provision)</li><li>➤ 62-297.620(4) – Exceptions and Approvals of Alternate Procedures and Requirements (applicable to PM emission units with baghouses to waive otherwise applicable PM compliance test requirements by specifying 5% opacity standard).</li></ul>
2. Compliance Assurance Monitoring <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable Note: CAM requirements apply and will require a future submittal of a CAM plan at the time of Title V permit renewal.
3. Alternative Methods of Operation <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
4. Alternative Modes of Operation (Emissions Trading) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

5. Acid Rain Part Application

- Certificate of Representation (EPA Form No. 7610-1)
  - Copy Attached, Document ID: \_\_\_\_\_
- Acid Rain Part (Form No. 62-210.900(1)(a))
  - Attached, Document ID: \_\_\_\_\_
  - Previously Submitted, Date: \_\_\_\_\_
- Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
  - Attached, Document ID: \_\_\_\_\_
  - Previously Submitted, Date: \_\_\_\_\_
- New Unit Exemption (Form No. 62-210.900(1)(a)2.)
  - Attached, Document ID: \_\_\_\_\_
  - Previously Submitted, Date: \_\_\_\_\_
- Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
  - Attached, Document ID: \_\_\_\_\_
  - Previously Submitted, Date: \_\_\_\_\_
- Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
  - Attached, Document ID: \_\_\_\_\_
  - Previously Submitted, Date: \_\_\_\_\_
- Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
  - Attached, Document ID: \_\_\_\_\_
  - Previously Submitted, Date: \_\_\_\_\_
- Not Applicable

**Additional Requirements Comment**

## EMISSIONS UNIT INFORMATION

Section [2] of [2]

### III. EMISSIONS UNIT INFORMATION

**Title V Air Operation Permit Application** - For Title V air operation permitting only, emissions units are classified as regulated, unregulated, or insignificant. If this is an application for Title V air operation permit, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each regulated and unregulated emissions unit addressed in this application for air permit. Some of the subsections comprising the Emissions Unit Information Section of the form are optional for unregulated emissions units. Each such subsection is appropriately marked. Insignificant emissions units are required to be listed at Section II, Subsection C.

**Air Construction Permit or FESOP Application** - For air construction permitting or federally enforceable state air operation permitting, emissions units are classified as either subject to air permitting or exempt from air permitting. The concept of an "unregulated emissions unit" does not apply. If this is an application for air construction permit or FESOP, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air permitting are required to be listed at Section II, Subsection C.

**Air Construction Permit and Revised/Renewal Title V Air Operation Permit Application** - Where this application is used to apply for both an air construction permit and a revised/renewal Title V air operation permit, each emissions unit is classified as either subject to air permitting or exempt from air permitting for air construction permitting purposes and as regulated, unregulated, or insignificant for Title V air operation permitting purposes. **The air construction permitting classification must be used to complete the Emissions Unit Information Section of this application for air permit.** A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air construction permitting and insignificant emissions units are required to be listed at Section II, Subsection C.

If submitting the application form in hard copy, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application must be indicated in the space provided at the top of each page.

**EMISSIONS UNIT INFORMATION**

Section [2] of [2]

**A. GENERAL EMISSIONS UNIT INFORMATION**

**Title V Air Operation Permit Emissions Unit Classification**

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

- The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.
- The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

**Emissions Unit Description and Status**

1. Type of Emissions Unit Addressed in this Section: (Check one)

- This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).
- This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.
- This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Description of Emissions Unit Addressed in this Section:

Application of various toners, stains, sealers, top-coatings, colors, glazes, and other specialty finishes to wood components in several application booths. Curing ovens and flash and wipe areas are also included as part of the finishing operations. Also, glue/adhesives are applied to the wood components during the manufacturing process. See Appendix A for more detailed information.

3. Emissions Unit Identification Number: 2

4. Emissions Unit Status Code: A	5. Commence Construction Date: 1 <sup>st</sup> Qtr 2005	6. Initial Startup Date: 2 <sup>nd</sup> Qtr 2005	7. Emissions Unit Major Group SIC Code: 24	8. Acid Rain Unit? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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9. Package Unit:

Manufacturer: N/A

Model Number:

10. Generator Nameplate Rating: MW

11. Emissions Unit Comment:

**EMISSIONS UNIT INFORMATION**

Section [2] of [2]

**Emissions Unit Control Equipment**

1. Control Equipment/Method(s) Description:

N/A

2. Control Device or Method Code(s):

**EMISSIONS UNIT INFORMATION**

Section [2] of [2]

**B. EMISSIONS UNIT CAPACITY INFORMATION**

(Optional for unregulated emissions units.)

**Emissions Unit Operating Capacity and Schedule**

1. Maximum Process or Throughput Rate:		
2. Maximum Production Rate: 3460 cabinets/day		
3. Maximum Heat Input Rate: million Btu/hr		
4. Maximum Incineration Rate: pounds/hr tons/day		
5. Requested Maximum Operating Schedule:		
24 hours/day		7 days/week
52 weeks/year		8760 hours/year
6. Operating Capacity/Schedule Comment:		
<p>The facility is expected to operate on a maximum operating schedule of 16 hours/day, 5 days/week, 250 days/year, 4,000 hours/year. However, periods of increased consumer demand for products may require extended periods of operation on a temporary basis.</p>		



**EMISSIONS UNIT INFORMATION**

Section [2] of [2]

**C. EMISSION POINT (STACK/VENT) INFORMATION  
(Optional for unregulated emissions units.)****Emission Point Description and Type**

1. Identification of Point on Plot Plan or Flow Diagram: See flow diagram (Figures 1,2) in Appendix A		2. Emission Point Type Code: 3	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking:  Finishing materials are primarily applied in spray booths. Fumes from the spray booths, flash areas, and curing ovens are vented to the atmosphere via a series of exhaust fans and exhaust stacks. Fumes from the application of glues/adhesives are vented through building vents.			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: N/A			
5. Discharge Type Code: V	6. Stack Height: 35 feet	7. Exit Diameter: 1.75 feet	
8. Exit Temperature: Ambient for application booths/areas and approximately 150°F for curing ovens.	9. Actual Volumetric Flow Rate: Approximately 6,000 – 8,000 cfm per booth and approximately 1,000 – 3,000 cfm per curing oven.	10. Water Vapor: %	
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates... Zone: East (km): North (km):		14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment:			

**EMISSIONS UNIT INFORMATION**

Section [2] of [2]

**D. SEGMENT (PROCESS/FUEL) INFORMATION**

**Segment Description and Rate:** Segment 1 of 1

1. Segment Description (Process/Fuel Type):  Application of various finishing materials and glue/adhesives to wood cabinet components (Wood furniture surface coating operations).		
2. Source Classification Code (SCC): 4-02-01-901		3. SCC Units: Tons solvent in coatings
4. Maximum Hourly Rate: see below	5. Maximum Annual Rate: see below	6. Estimated Annual Activity Factor: N/A
7. Maximum % Sulfur: N/A	8. Maximum % Ash: N/A	9. Million Btu per SCC Unit: N/A
10. Segment Comment:  For above items 4. and 5., maximum hourly and annual rates will correspond to the amount of VOCs applied as contained in the finishing materials and glues/adhesives. The maximum estimated annual VOC usage (emission) rate is 411 tons/yr.		

**Segment Description and Rate:** Segment \_\_ of \_\_

1. Segment Description (Process/Fuel Type):  		
2. Source Classification Code (SCC):		3. SCC Units:
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:  		

**EMISSIONS UNIT INFORMATION**

Section [2] of [2]

**D. SEGMENT (PROCESS/FUEL) INFORMATION (CONTINUED)**

**Segment Description and Rate:** Segment \_\_ of \_\_

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):		3. SCC Units:
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

**Segment Description and Rate:** Segment \_\_ of \_\_

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):		3. SCC Units:
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

**EMISSIONS UNIT INFORMATION**

Section [2] of [2]

**E. EMISSIONS UNIT POLLUTANTS**

**List of Pollutants Emitted by Emissions Unit**

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
VOC, HAPS	N/A	N/A	EL

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –  
 POTENTIAL/ESTIMATED FUGITIVE EMISSIONS**

(Optional for unregulated emissions units.)

**Potential/Estimated Fugitive Emissions**

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: VOC, HAPS	2. Total Percent Efficiency of Control: 0.0 %
3. Potential Emissions: VOC: 257 lb/hour* 411 tons/year  * This value reflects estimated potential hourly emissions calculated on a monthly average basis. Due to variability in finishing materials applied and VOC content, the hourly emission rate could potentially be higher for an individual hour.	4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5. Range of Estimated Fugitive Emissions (as applicable): N/A	
6. Emission Factor: N/A  Reference:	7. Emissions Method Code: 2
8. Calculation of Emissions:  See Appendix A for detailed emission calculations.	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -  
 ALLOWABLE EMISSIONS**

**Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.**

**Allowable Emissions** Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: RULE, OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.8 lb VHAP/lb solids average across all coatings and 0.2 lb VHAP/lb solids for contact adhesives to comply with 40 CFR 63, Subpart JJ (NESHAP requirements).	4. Equivalent Allowable Emissions: 411 tons VOC/year
5. Method of Compliance: Maintain records of material usage information and VOC/HAP content. The facility has implemented a material tracking system (REGMET software) for this purpose.	
6. Allowable Emissions Comment (Description of Operating Method): The requested annual emission limit of 411 tons VOC/yr is based on maximum estimated emissions for the facility inclusive of emissions from the proposed equipment. This new limit is requested to replace the current VOC limit of 249 tons/yr.	

**Allowable Emissions** Allowable Emissions \_\_\_ of \_\_\_

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour                      tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

**Allowable Emissions** Allowable Emissions \_\_\_ of \_\_\_

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour                      tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

**EMISSIONS UNIT INFORMATION**

Section [2] of [2]

**G. VISIBLE EMISSIONS INFORMATION**

Complete if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

*Note: this section is not applicable*

**Visible Emissions Limitation:** Visible Emissions Limitation \_\_\_ of \_\_\_

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions:                      %                      Exceptional Conditions:                      % Maximum Period of Excess Opacity Allowed:                      min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

**Visible Emissions Limitation:** Visible Emissions Limitation \_\_\_ of \_\_\_

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions:                      %                      Exceptional Conditions:                      % Maximum Period of Excess Opacity Allowed:                      min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

**EMISSIONS UNIT INFORMATION**

Section [2] of [2]

**H. CONTINUOUS MONITOR INFORMATION**

**Complete if this emissions unit is or would be subject to continuous monitoring.**

*Note: this section is not applicable*

**Continuous Monitoring System:** Continuous Monitor \_\_\_ of \_\_\_

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

**Continuous Monitoring System:** Continuous Monitor \_\_\_ of \_\_\_

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	



**EMISSIONS UNIT INFORMATION**

Section [2] of [2]

**H. CONTINUOUS MONITOR INFORMATION (CONTINUED)**

Complete if this emissions unit is or would be subject to continuous monitoring.

*Note: this section is not applicable*

**Continuous Monitoring System:** Continuous Monitor \_\_\_ of \_\_\_

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

**Continuous Monitoring System:** Continuous Monitor \_\_\_ of \_\_\_

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

**EMISSIONS UNIT INFORMATION**

Section [2] of [2]

**I. EMISSIONS UNIT ADDITIONAL INFORMATION**

**Additional Requirements for All Applications, Except as Otherwise Stated**

<p>1. Process Flow Diagram (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)</p> <p><input checked="" type="checkbox"/> Attached, Document ID: <u>see Figures 1.2 in Appendix A</u>    <input type="checkbox"/> Previously Submitted, Date _____</p>
<p>2. Fuel Analysis or Specification (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)</p> <p style="text-align: center;"><b>Not applicable</b></p> <p><input type="checkbox"/> Attached, Document ID: _____    <input type="checkbox"/> Previously Submitted, Date _____</p>
<p>3. Detailed Description of Control Equipment (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)</p> <p style="text-align: center;"><b>Not applicable</b></p> <p><input type="checkbox"/> Attached, Document ID: _____    <input type="checkbox"/> Previously Submitted, Date _____</p>
<p>4. Procedures for Startup and Shutdown (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)</p> <p><input type="checkbox"/> Attached, Document ID: _____    <input type="checkbox"/> Previously Submitted, Date _____</p> <p><input checked="" type="checkbox"/> Not Applicable (construction application)</p>
<p>5. Operation and Maintenance Plan (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)</p> <p><input type="checkbox"/> Attached, Document ID: _____    <input type="checkbox"/> Previously Submitted, Date _____</p> <p><input type="checkbox"/> Not Applicable    <b>Note: the facility has prepared and maintains a work practice implementation plan as required by 40 CFR 63, Subpart JJ (NESHAP requirements).</b></p>

6. Compliance Demonstration Reports/Records

Attached, Document ID: \_\_\_\_\_

Test Date(s)/Pollutant(s) Tested: \_\_\_\_\_

Previously Submitted, Date: \_\_\_\_\_

Test Date(s)/Pollutant(s) Tested: \_\_\_\_\_

To be Submitted, Date (if known): \_\_\_\_\_

Test Date(s)/Pollutant(s) Tested: \_\_\_\_\_

Not Applicable

Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.

7. Other Information Required by Rule or Statute

Attached, Document ID: \_\_\_\_\_

Not Applicable

**EMISSIONS UNIT INFORMATION**

Section [2] of [2]

**Additional Requirements for Air Construction Permit Applications**

1. Control Technology Review and Analysis (Rules 62-212.400(6) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)) <input checked="" type="checkbox"/> Attached, Document ID: <u>see BACT Analysis in Appendix B</u> <input type="checkbox"/> Not Applicable
2. Good Engineering Practice Stack Height Analysis (Rule 62-212.400(5)(h)6., F.A.C., and Rule 62-212.500(4)(f), F.A.C.) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
3. Description of Stack Sampling Facilities (Required for proposed new stack sampling facilities only) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

**Additional Requirements for Title V Air Operation Permit Applications**

1. Identification of Applicable Requirements <input type="checkbox"/> Attached, Document ID: <u>see information below:</u>  Applicable requirements specific to Unit ID 2: ➤ 40 CFR 63, Subpart JJ – National Emission Standards for Wood Furniture Manufacturing Operations.
2. Compliance Assurance Monitoring <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
3. Alternative Methods of Operation <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
4. Alternative Modes of Operation (Emissions Trading) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

5. Acid Rain Part Application

- Certificate of Representation (EPA Form No. 7610-1)
  - Copy Attached, Document ID: \_\_\_\_\_
- Acid Rain Part (Form No. 62-210.900(1)(a))
  - Attached, Document ID: \_\_\_\_\_
  - Previously Submitted, Date: \_\_\_\_\_
- Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
  - Attached, Document ID: \_\_\_\_\_
  - Previously Submitted, Date: \_\_\_\_\_
- New Unit Exemption (Form No. 62-210.900(1)(a)2.)
  - Attached, Document ID: \_\_\_\_\_
  - Previously Submitted, Date: \_\_\_\_\_
- Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
  - Attached, Document ID: \_\_\_\_\_
  - Previously Submitted, Date: \_\_\_\_\_
- Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
  - Attached, Document ID: \_\_\_\_\_
  - Previously Submitted, Date: \_\_\_\_\_
- Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
  - Attached, Document ID: \_\_\_\_\_
  - Previously Submitted, Date: \_\_\_\_\_
- Not Applicable

**Additional Requirements Comment**

**APPENDIX A**

**Process Description & Emission Calculations**

# PROCESS DESCRIPTION & EMISSION CALCULATIONS

The wood cabinet manufacturing facility includes two primary processing areas: woodworking and finishing. A process block flow diagram for the facility operations is shown in Figure 1. A more detailed process flow diagram for the manufacturing operations is presented as Figure 2.

## PROCESS DESCRIPTION

The woodworking operations consist of machinery used to manufacture wood cabinet and frame components from previously milled wood. The woodworking machinery includes equipment such as saws, borers, routers, and shaping and carving machines. After the machining operations, the wood parts are glued to form panels, frames, and doors in a component assembly process. Then the wood parts are exposed to a variety of sanding operations prior to the application of finishing materials (note that a portion of the cabinets assembled are not finished at the Ocala facility). A wood dust collection system is employed for removing dust and chips from the processing operations described above. The dust collection system configuration consists of rigid ductwork from each dust generating equipment unit connected to common fabric filter baghouses. Exhaust from the baghouses is normally returned to the manufacturing building but can also be vented to the atmosphere via exhaust stacks.

The wood cabinet parts finishing system consists of a series of application spray booths, flash areas, brush and wipe sanding stations, and curing ovens. These processes are connected by an overhead conveyor system that continually moves the parts through the application and process steps. The process begins with the cabinet parts, such as doors, drawer fronts, and frames, being hung on an overhead conveyor with the use of specially designed hooks. The first on-line operation is a wiping or brushing process to clean the product prior to the first coating step. This operation, depending on line speed, is either manual or automated with the use of a light brush and vacuum system. A small dust collection device is used for dust collection with air returned to the manufacturing building. Next, toner is applied manually by operators using hand held high volume low-pressure (HVLP) spray guns. Toner is applied only to a small percentage of products to achieve certain colors or to harmonize the color of the wood. Also, stain is applied manually by operators again using HVLP spray guns in back-to-back spray booths. Stain is applied to approximately two-thirds of the product finished as required to change the color of the wood. The stained product proceeds to a wiping area where the parts are hand wiped to achieve the desired consistent color. After wiping, the stained parts enter a low temperature oven operated in the range of 150 degrees Fahrenheit to thoroughly dry the stain.

A clear coat sealer is then applied manually by operators using HVLP or air assisted airless (or equivalent) spray guns in back-to-back spray booths. The clear coat sealer is applied to all products to seal the porosity of the wood. The clear coat sealed parts are allowed to flash in a ventilated flash area and then enter an oven where the clear coat is cured. After a short cool down period, the parts are sent to a sealer sand area for light sanding to remove any raised grain. Here the parts are inspected and readied for the application of the final clear topcoat. The dust generated by the sanding operation is collected by a small dust collection system with the air returned to the finishing room. The parts then enter the last finishing process: the application of the clear topcoat. The topcoat is applied manually by operators using HVLP or air assisted airless (or equivalent) spray guns in back-to-back spray booths. The top-coated parts are allowed to flash in a ventilated flash area and then enter an oven where the topcoat is cured. The parts are allowed to cool on-line for a short time prior to being moved to the cabinet assembly area where final products are assembled.

Additional off-line spray booths are also be required for touch-up and repair, special parts/products, or special colors, glazes, and other finishes. Generally, these systems are not conveyORIZED and parts are moved manually to the off-line ovens, sanding, or wiping areas.

The facility operates numerous natural gas-fired units as part of the manufacturing operations and for ventilation purposes. These units are small sized units (each less than 5 MMBtu/hr) and include curing ovens, make-up air units, and other ventilation related equipment. The combustion of natural gas fuel in these units results in emissions of various fuel burning related pollutants including carbon monoxide and nitrogen oxides.

### **EMISSION CALCULATIONS**

Emission calculations which provide an estimate of maximum expected emissions for the facility including emissions from woodworking operations, finishing operations, and natural gas-fired units are presented on the following pages. Table A-1 presents a facility-wide summary of maximum expected air pollutant emissions and a summary of past actual and future potential VOC emissions. Tables A-2, A-3, and A-4 provide calculations for woodworking, finishing, and natural gas emission units, respectively. These estimates reflect new facility totals inclusive of maximum expected emissions from the additional equipment proposed for installation.



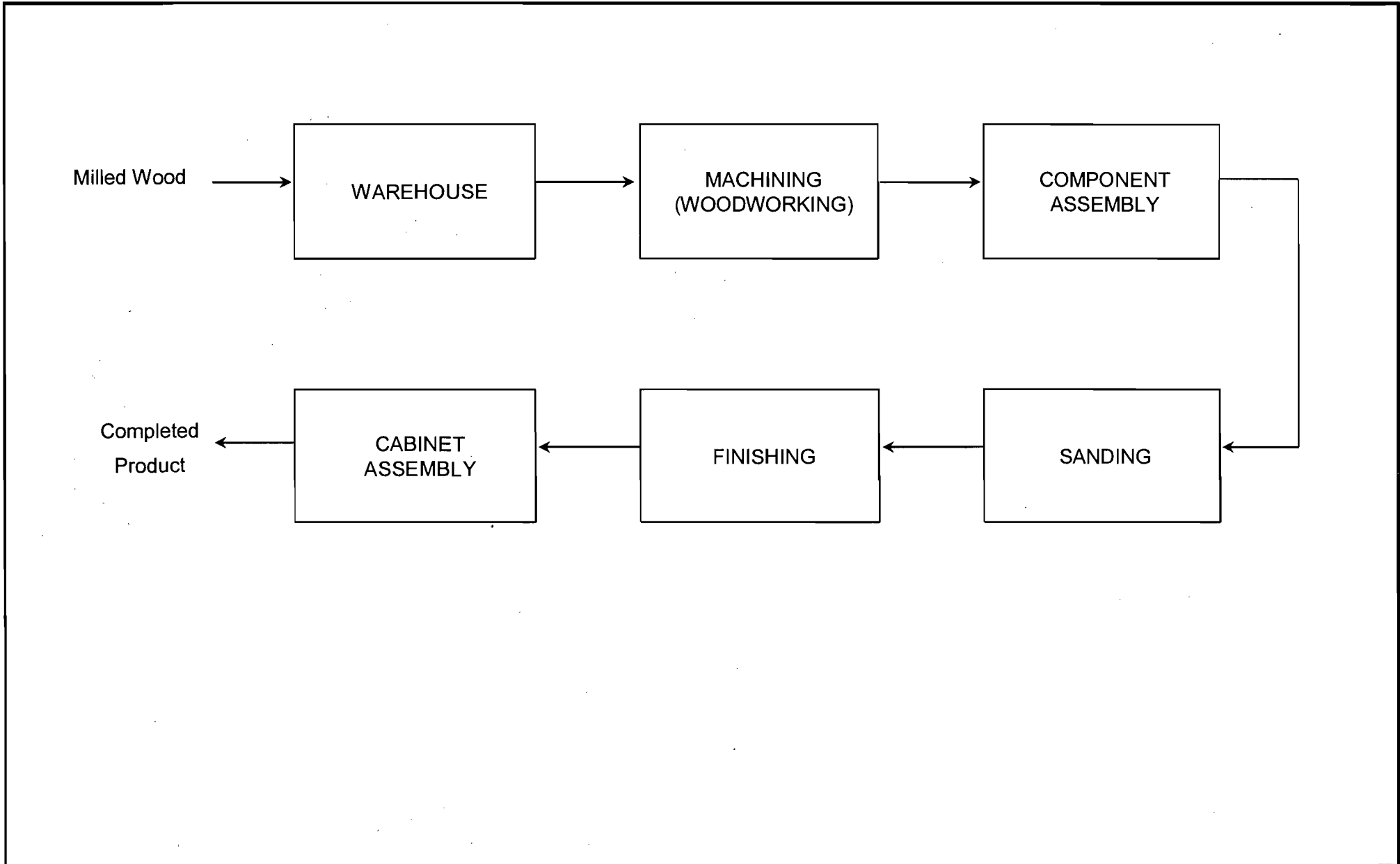
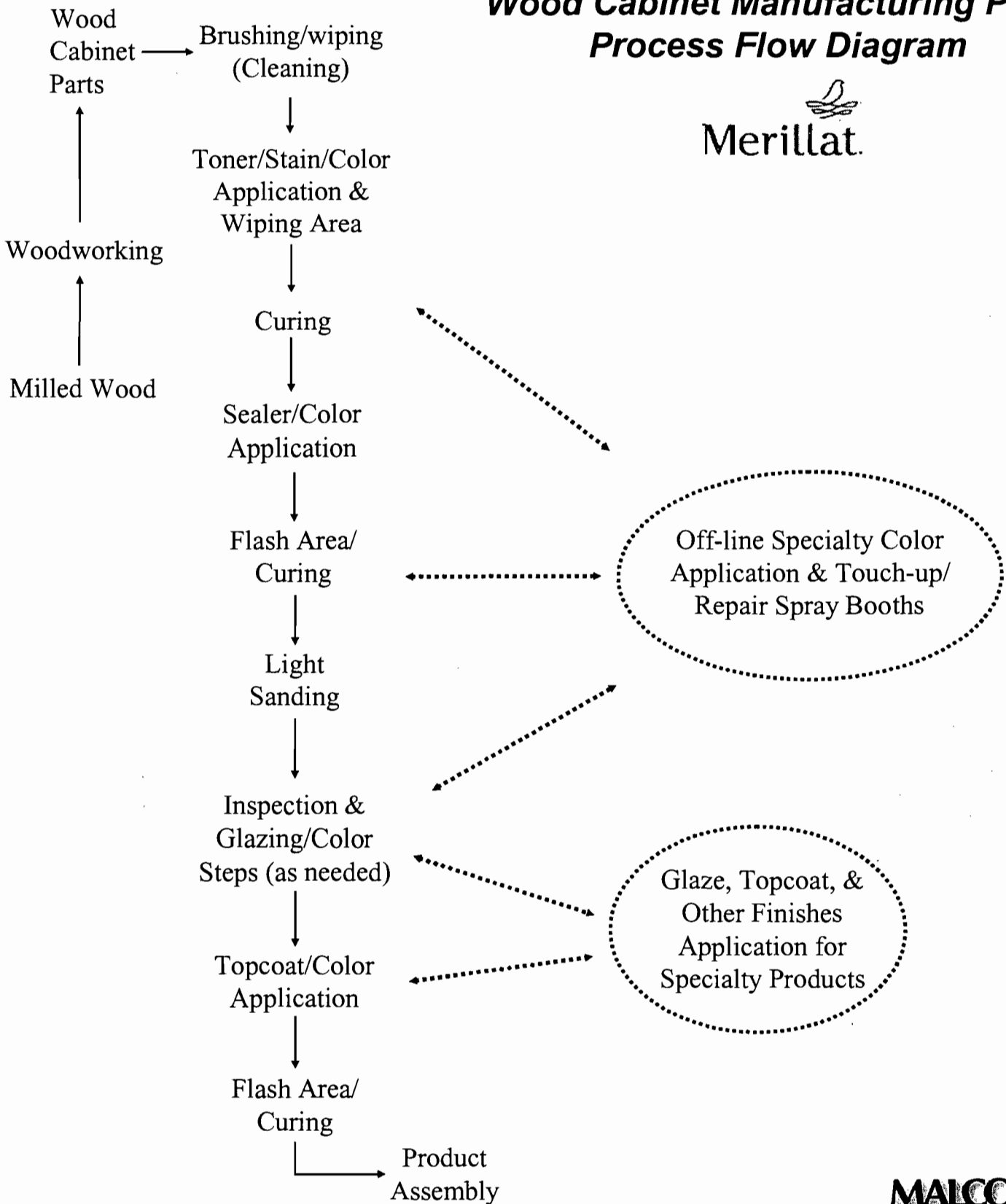


FIGURE 2

**Wood Cabinet Manufacturing Plant  
Process Flow Diagram**



**TABLE A-1  
FUTURE POTENTIAL EMISSIONS SUMMARY  
Modified Wood Cabinet Manufacturing Facility - Ocala, Florida**

Process/Emission Activity	Maximum Expected Emissions, tons/year					
	VOC	HAP	PM	NO <sub>x</sub>	CO	SO <sub>2</sub>
Woodworking	--	--	2.0	--	--	--
Finishing	410.9	86.5	--	--	--	--
Natural Gas Combustion	0.5	--	0.7	9.3	7.8	0.1
Facility Totals	411.4	86.5	2.7	9.3	7.8	0.1

**PRIOR 2-YEAR ACTUAL VOC EMISSIONS SUMMARY FROM FINISHING OPERATIONS**

VOC Emissions	Tons/yr
24-Month Total (Sept. 2002 - Aug. 2004)	331.7
Annual Average (past 24-months)	165.9

**TABLE A-2**  
**ESTIMATED EMISSIONS FROM WOODWORKING OPERATIONS**  
**Modified Wood Cabinet Manufacturing Facility - Ocala, Florida**

Woodworking machinery is operated to manufacture wood cabinet components prior to finishing operations. Note that a portion of the wood cabinets that are assembled are not finished at the Ocala facility. Emissions of particulate matter from the woodworking operations are controlled by dust collector system(s) operating at an estimated control efficiency of 99 - 99.9 percent.

**Estimated Operating Data:**

Maximum cabinets to be assembled (daily max basis)	4000 cabinets/day
Amount of material wasted (annual average maximum basis)	4.0 lb/cabinet
Estimated particulate/dust portion of material wasted	10 percent
Control efficiency of dust collector system	99 - 99.9 percent

**Maximum Expected PM Emissions:**

Hourly emissions =  $4000 \text{ cab./day} \times 4.0 \text{ lb/cab} \times \text{day}/16 \text{ hr} \times 0.10 \times (1 - 0.99) \times 1.25 \text{ (max hourly factor)}$   
 = 1.3 lb/hr  
 (note: this reflects a monthly average maximum hourly emission rate)

Annual emissions =  $4000 \text{ cab./day} \times 4.0 \text{ lb/cab} \times 250 \text{ day/yr} \times 0.10 \times (1 - 0.99) \times \text{ton}/2000 \text{ lb}$   
 = 2.0 ton/yr

**TABLE A-3**  
**ESTIMATED EMISSIONS FROM FINISHING OPERATIONS**  
**Modified Wood Cabinet Manufacturing Facility - Ocala, Florida**

Various finishing materials (toners, stains, sealers, topcoatings, glazes, etc.) are applied to wood cabinet parts in the finishing system. The application of these materials generates emissions of VOCs (and HAPs) from spray booths, flash & wipe areas, and curing ovens. Note that a portion of the wood cabinets assembled at the Ocala facility are not finished.

**Estimated Operating Data:**

Maximum cabinets to be finished (daily max basis)	3460 cabinets/day
VOC usage per cabinet (annual average maximum basis)	0.95 lb/cabinet
HAP usage per cabinet (annual average maximum basis)	0.20 lb/cabinet

**Maximum Expected VOC Emissions:**

Hourly emissions =  $3460 \text{ cab./day} \times 0.95 \text{ lb/cab} \times \text{day}/16 \text{ hr} \times 1.25 \text{ (max hourly factor)}$   
 = 256.8 lb/hr  
 (note: this reflects a monthly average maximum hourly emission rate)

Annual emissions =  $3460 \text{ cab./day} \times 0.95 \text{ lb/cab} \times 250 \text{ day/yr} \times \text{ton}/2000 \text{ lb}$   
 = 410.9 ton/yr

**Maximum Expected HAP (total) Emissions:**

Hourly emissions =  $3460 \text{ cab./day} \times 0.20 \text{ lb/cab} \times \text{day}/16 \text{ hr} \times 1.25 \text{ (max hourly factor)}$   
 = 54.1 lb/hr  
 (note: this reflects a monthly average maximum hourly emission rate)

Annual emissions =  $3460 \text{ cab./day} \times 0.20 \text{ lb/cab} \times 250 \text{ day/yr} \times \text{ton}/2000 \text{ lb}$   
 = 86.5 ton/yr

**TABLE A-4**  
**ESTIMATED EMISSIONS FROM NATURAL GAS COMBUSTION UNITS**  
**Modified Wood Cabinet Manufacturing Facility - Ocala, Florida**

In support of the wood cabinet manufacturing operations, various natural gas combustion units are operated. These emission units include curing ovens, air make-up units, and gas heaters.

**Estimated Capacity Requirements of Natural Gas-Fired Units:**

Emission Unit	Total Rated Capacity of Units (MMBtu/hr)
Curing Ovens	13.7
Make-Up Air Units	30.6
Ancillary Units	3.3
<b>Note: maximum rated capacity of each individual unit is less than 5 MMBtu/hr.</b>	
Total MMBtu/hr of all natural gas units	47.6
Maximum estimated MMBtu demand per year	190,400

**Maximum Expected Emissions (totals for all units)**

(Basis: AP-42, Section 1.4 factors for natural gas combustion)

Pollutant	Emission Factor lb/10 <sup>6</sup> scf	Maximum Estimated Emissions		
		lb/hr	lbs/day	tons/yr
NO <sub>x</sub>	100	4.67	112.0	9.3
CO	84	3.92	94.1	7.8
SO <sub>2</sub>	0.6	0.03	0.7	0.1
VOC	5.5	0.26	6.2	0.5
PM	7.6	0.35	8.5	0.7

Note: emission estimates based on natural gas heating value of 1,020 Btu/scf.

**APPENDIX B**  
**BACT Analysis**

**BACT ANALYSIS**

This section presents the Best Available Control Technology (BACT) analysis for Merillat's proposed modifications to the Ocala wood cabinet manufacturing facility. This analysis was completed to address PSD-BACT requirements relative to the proposed increase in volatile organic compound (VOC) emissions from the finishing operations.

**BACKGROUND**

Under the PSD program, newly constructed and modified major sources located in areas that are in attainment with NAAQS must implement BACT. The BACT review process is outlined in the EPA draft document "New Source Review Workshop Manual" (USEPA, 1990). The five major steps involved in a BACT analysis are:

- Identification of all available control options and alternative processes with practical potential for application to the specific emission unit for the regulated pollutant under evaluation.
- Elimination of technically infeasible or unavailable control technology options.
- Ranking of remaining control technologies based on control effectiveness.
- Evaluation of most effective control technologies and documentation of results.
- Selection of BACT.

Best Available Control Technology (BACT) is defined in 42 U.S.C. & 7479, provision within the Clean Air Act as follows:

"[BACT] means an emission limitation based on the maximum degree of reduction of each pollutant subject to regulation under this chapter emitted from or which results from any major emitting facility, which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and the other costs, determines is achievable for such facility through application of production processes and available methods, systems and techniques..."

Economic, energy and environmental impacts are considered in a "top-down" BACT analysis. The "top-down" BACT approach must not only look at the most stringent emission limits previously approved, but it also must evaluate all demonstrated and potentially applicable technologies. These technologies and emission limits are identified through a review of EPA's RACT/BACT/LAER Clearinghouse (RBLC). Information from the RBLC for the wood products/furniture surface coating category is provided at the end of this appendix. If the proposed BACT is equivalent to the most stringent emission limit, no further analysis is necessary. However, if the most stringent emission limit is not selected, additional analyses are required.

Once the most stringent emission limit has been identified, its technical feasibility must be determined. A technology that is available and is applicable to the source under review is considered technically feasible. A control technique is considered available if it has reached the licensing and commercial sales stage of



development. If a control technique is not applicable or is technically or economically infeasible for the source in question, the next most stringent technology is evaluated. The process continues until an emission control technology cannot be eliminated. If a control technology is technically and economically feasible and provides the most stringent emission level, that control is considered BACT unless energy or environmental impacts preclude its use.

The determination of what ultimately constitutes BACT is left to the state regulatory agency in which the emissions unit will operate. This allows state regulatory agencies to consider the weight or emphasis to be placed on the energy, environmental and economic impacts of control. The state agency may consider the size of the facility, the increment of air quality that will be absorbed by any particular major emitting facility and such other considerations as anticipated and desired economic growth for the area. For the Merillat-Ocala facility, the Florida Department of Environmental Protection (DEP) will determine BACT for the proposed facility modification.

### **IMPACT ANALYSIS OF CONTROL ALTERNATIVES**

If the most stringent technically feasible emission limitation is not selected as BACT, justification must be provided in terms of adverse environmental, energy, or economic impacts. The net environmental impact is the first analysis performed for each alternative. Both beneficial impacts and adverse impacts should be discussed and qualified/quantified where possible. All air pollutants should be included in the analysis, including air pollutants not currently regulated under the Clean Air Act. The second analysis involves energy impacts. The direct energy impacts of the control alternatives are estimated in terms of energy consumption (Btu, kWh, etc.). In addition, the impacts of relying on scarce fuels must be considered because of the possibility of a change in availability in subsequent years. The third analysis involves evaluating the economic impacts of control alternatives with primary consideration to the cost effectiveness (dollars per ton of pollutant removed) for each option. The analysis generally includes an estimate of the capital and annualized costs for each alternative based on vendor quotes and established USEPA cost-estimating procedures.

### **ENFORCEABILITY**

An emission limit must be proposed for each emission unit subject to BACT and the emission limit must be federally enforceable. The emission limit must be specific such that regulatory agency personnel can ascertain the compliance status of the emission unit.

### **ANALYSIS OF CANDIDATE AIR POLLUTION CONTROL ALTERNATIVES**

Both add-on air pollution control technologies and use of alternative materials and processes were considered in the BACT analysis for reducing VOC emissions from the finishing operations. Technically feasible add-on control technologies for reducing VOC emissions include thermal oxidation, catalytic oxidation, carbon adsorption, absorption/scrubbing, and condensation. The use of alternative materials includes implementing the use of non-photochemically reactive (non-VOC) and low VOC finishing materials. Process and coating application alternatives include the use of high volume, low pressure (HVLP), air assisted or airless spray guns to minimize overspray and the use of ultraviolet (UV) curing technology. These candidate air pollution control alternatives are discussed in the sections below.

## ALTERNATIVE MATERIALS AND PROCESSES

VOC emission reduction alternatives include the use of non-VOC and low VOC finishing materials. Merillat continually works with finishing material suppliers to implement low VOC coatings and include non-photochemically reactive solvents into coating formulations. The VOC contents of finishing materials vary significantly based on the type of coating (toners, stains, sealers, topcoats, etc.) being applied and the type of cabinet being produced in response to continually changing consumer demands. In addition, specialty products can require the use of certain specialty formulations with varying VOC contents on a limited-use basis. The establishment of a specific limitation on VOC content would restrict the facility's ability to produce certain products and adjust to changes in consumer demands. This would preclude the facility from effectively operating in the high-quality end of the wood cabinet industry. As such, a VOC content limitation does not constitute BACT for the facility.

The finishing system at the Ocala includes a series of spray booths for the manual application of various finishing materials to wood cabinet components. To minimize the amount of material applied (and VOC emissions) in comparison with conventional spray gun applicators, spray gun application equipment which reduces overspray is available. This equipment includes HVLP, air assisted, and airless spray gun technology. These spray gun alternatives are each approximately equivalent in minimizing overspray. Therefore, the use of HVLP, air assisted, and/or airless spray gun (or equivalent) technology is a candidate to represent BACT.

The implementation of UV curing technology was also considered as an alternative process for the finishing system. UV curing is a photochemical process used to cure coating with UV light as opposed to heat which is used for curing in a conventional finishing process. In the UV process, 100 percent reactive, non-VOC coatings can be applied. Merillat has evaluated the use of UV technology for application to the wood cabinet manufacturing process and has found that the UV spray technology has not been demonstrated to produce a consistent, high-quality finish on wood cabinets. Consequently, UV technology is not considered a technically feasible alternative and does not constitute BACT.

## ADD-ON AIR POLLUTION CONTROL TECHNOLOGIES

Application of add-on pollution control technology to the wood cabinet finishing operations will require an extensive VOC collection system to capture ventilation air from the modified finishing process. The sources of VOC emissions from the proposed finishing equipment consist of application spray booths, repair and off-line spray booths, wiping and flash-off areas, and low temperature curing ovens. The application of the finishing materials is conducted in highly ventilated areas as required by worker health and safety standards. To achieve high VOC collection efficiencies (approximately 95 percent with 5 percent uncaptured/fugitive losses), these areas are vented under negative pressure and routed through a rigid ductwork system. The total volume of exhaust air from the finishing system is dependent on the number of spray booths (and associated flash-off areas) and curing ovens. The proposed combination of new spray booths and ovens will generate an estimated total air flow of 120,000 cubic feet per minute (cfm), which will be vented from the application areas. Consequently, the implementation of add-on air pollution control systems, such as thermal oxidizers to reduce emissions of VOCs from these finishing operations would have to be adequately sized to handle high exhaust air flow rates. Because large control systems are required, the costs associated with the implementation of these systems are substantial. To reduce the volume of exhaust air to be treated by an add-on control device, Merillat has evaluated the use

of exhaust air concentrators. However, the implementation of an exhaust concentrator has not been demonstrated in the wood cabinet manufacturing industry and information obtained on this equipment suggests significant downtime may occur (20-30% downtime) thereby requiring that add-on control equipment be sized at the full exhaust air flow from the process. For these reasons, the use of an exhaust concentrator upstream of an add-on control device was not considered as BACT.

Traditional VOC add-on control options include incineration (thermal and catalytic oxidation) and non-destructive control alternatives such as carbon adsorption, absorption/scrubbing, and condensation. Add-on pollution control devices, exclusively incineration systems, have been implemented at a very small percentage of wood cabinet manufacturing facilities to reduce VOC emissions. Incineration technology, based on qualified input loadings in excess of 500 ppm, can achieve high VOC destruction efficiencies above 95 percent, while non-destructive control technologies can potentially achieve VOC removal efficiencies in the 70 to 90 percent range depending on the types and concentrations of organic pollutants in the gas stream.

Due to the use of the variety of finishing materials required to achieve the colors, textures, and the look and feel of the wood cabinet required by today's consumer, the exhaust gas streams from wood finishing systems include highly variable organic concentrations and numerous and variable organic constituents. Consequently, non-destructive control alternatives have not been implemented on wood finishing systems. In addition, the non-destructive control options are not as effective in consistently reducing VOC emissions from highly variable exhaust streams in comparison with incineration alternatives. Therefore, carbon adsorption, absorption/scrubbing, and condensation, were eliminated from further consideration as BACT for the control of VOC emissions from the finishing operations.

As evident from the RBLC, incineration systems, specifically regenerative thermal oxidizer (RTO) systems, have been implemented to control VOC emissions from a few wood finishing operations. An RTO system is the type of incineration system best suited for application to wood furniture finishing operations based on reduced auxiliary fuel demands, which is a particularly important factor when handling large volumes of exhaust gas with low concentrations of volatile organic constituents. RTO systems are able to substantially lower auxiliary fuel requirements by achieving heat recoveries of approximately 95 percent through the use of specialized heat exchange media. Equipment manufacturers of RTO systems will generally guarantee VOC destruction efficiencies in excess of 95 percent assuming a minimum VOC concentration of 500 ppm, in the gas stream.

The Merillat finishing system differs from those referenced in the RBLC utilizing incineration in that the use of vertical hand spray booths will be used for the finish application steps. From years of experience finishing components at rates over 18,000 cabinets per day, Merillat has learned that hand applications utilizing trained operators and today's efficient spray technologies, tend to be much more efficient in transferring the material on the part than the highly automated systems. The reason for this overall efficiency difference is that waste material and equipment cleaning solvents are minimized. Even though many of the automated systems utilize reclaim, in that they collect a percentage of overspray from the conveyor and collection belt, this is done with the additional use of highly volatile solvents. Also, because kitchen cabinet clear coats are catalyzed, it is difficult to utilize all of the reclaim material generated, thereby increasing waste.

The enhanced transfer efficiency of the hand application system does come at a cost. It is more labor intensive, generally takes more building space, and more importantly, due to health and safety requirements, it requires significantly greater amounts of exhaust air. Because the proposed manual system of spray booths requires a greater amount of air per unit produced, much lower volatile concentrations will result in the exhaust gas air stream. Even by recirculating the exhaust air wherever possible, the potential volatile loading could often be as low as approximately 100 ppm<sub>v</sub>. With this low of an inlet concentration, RTO manufacturers are often reluctant to guarantee 95 percent destruction efficiency. Normally, EPA Method 25A is used to verify VOC performance, and due to the expected low VOC inlet concentrations, test error and ambient background measurements, most manufactures limit their guarantee to be no less than 15 to 20 ppm<sub>v</sub> measured at the outlet.

Based on the above information, it is not feasible to propose destruction efficiency any greater than 95 percent. The finishing equipment collection system will be designed utilizing the concepts of a total enclosure, however the collection efficiency must account for at least a small amount of uncaptured or fugitive losses. Accounting for an estimated 5 percent allowance for uncaptured or fugitive losses associated with a collection system yields an estimated collection efficiency of 95 percent. Therefore, the use of incineration add-on pollution control technology operating at a measured VOC destruction efficiency of 95 percent in conjunction with a VOC collection system with an estimated collection efficiency of 95 percent results in a control system operating at an overall VOC control efficiency of 90 percent. This control level is believed to represent a top-level of control for the proposed finishing equipment. As discussed above, an RTO is the type of incineration technology best suited for application to a finishing system based on auxiliary fuel cost savings. Nonetheless, a thermal oxidation system with no heat recovery and catalytic oxidation systems with and without heat recovery are also candidate control alternatives. Below is a summary of the candidate incineration alternatives further considered below as BACT in the "top-down" process:

- Regenerative thermal oxidation with 95% heat recovery
- Thermal oxidation (with no heat recovery)
- Catalytic oxidation (with 70% heat recovery)
- Catalytic oxidation (with no heat recovery)

Each of the above alternatives are ranked as equivalent in the "top-down" process since each are assumed to achieve an overall VOC control efficiency of 90% (based on a 95% efficient VOC collection system and a 95% control device destruction efficiency). These incineration alternatives are further evaluated as BACT based on economic, energy, and environmental impacts in the sections below.

#### **IMPACT ANALYSIS FOR ADD-ON AIR POLLUTION CONTROL TECHNOLOGIES**

Each of technically feasible add-on air pollution control technologies identified above is further evaluated as BACT based on economic, energy, and environmental impacts. The economic impact analysis performed for each incineration option considers estimated equipment capital costs and annualized operating costs. The economic analyses were completed based on two-60,000 cfm control systems (to treat a total exhaust rate of 120,000 cfm) following an approach consistent with USEPA guidance as

documented in the OAQPS Control Cost Manual (EPA/452/B-02-001 – Section 3, Chapter 2). The purchased equipment cost item was estimated for each control alternative directly from the OAQPS manual and was verified to represent a reasonable cost estimate by Merillat. An estimated ductwork cost was included in the analysis based on Merillat's estimated capital cost to implement a ductwork system for capturing VOC emissions from each proposed spray booth and associated curing ovens and flash areas and routing the VOC exhausts to add-on control systems. In accordance with the OAQPS manual, a 10-year equipment life and 7 year interest rate was used to calculate a capital recovery cost. The final step in the economic impact analysis is to calculate an annualized cost effectiveness value in terms of dollars per ton of pollutant (VOC) reduced. In calculating this value for the proposed finishing equipment to be installed at the Merillat facility, the tons of pollutant reduced was calculated by subtracting the newly proposed potential emissions value (411 tons/year) from the current potential emissions value for the existing equipment of (249 tons/year) and then applying a 90 percent overall control efficiency factor based on the implementation of a VOC collection and control system. Detailed economic impact cost tables are provided for each option as Tables B-1 through B-4 in this appendix.

Energy and environmental impacts are also considered as part of the impact analysis. Each of the incineration options has associated energy impacts attributed to auxiliary fuel demand and pressure loss through the control system. These energy impacts are shown for each control alternative under direct annual costs in Tables B-1 through B-4. Environmental impacts pertain to the generation of combustion related emissions (primarily NO<sub>x</sub> and CO) from the operation of an incinerator. The pollutant of primary concern is NO<sub>x</sub> since it has the potential to result in ozone formation. NO<sub>x</sub> emissions are estimated to be approximately 10 to 20 tons per year from the operation of an add-on incinerator. However, this adverse environmental impact does not preclude eliminating the incineration operations from consideration as BACT since a significantly greater amount of VOC emissions will be reduced.

The impact analyses completed for each control alternative are summarized in the table shown below. Economic impacts for the incineration options range from \$8,310/ton to \$46,897/ton of VOC reduced. As expected, the options with heat recovery have lower annualized total costs due to substantial savings in auxiliary fuel costs. The costs associated with the application of each incineration technology are considered excessive in that they are greater than those typically associated with acceptable BACT alternatives. Therefore, add-on controls are concluded to be inappropriate as BACT for the proposed finishing equipment on the basis of excessive economic impacts.

Control Alternative	Emissions Reduced (tons VOC/yr)	Total Annualized Cost (\$/yr)	Cost Effectiveness (\$/ton VOC)	Energy Impact (\$/yr)	Environmental Impact (tons NO <sub>x</sub> /yr)
Regenerative Thermal Oxidation	145.8	1,211,597	8,310	185,021	21.4
Thermal Oxidation (no heat recovery)	145.8	6,837,558	46,897	3,264,769	21.4
Catalytic Oxidation (w/heat recovery)	145.8	1,660,081	11,386	507,474	10.5
Catalytic Oxidation (no heat recovery)	145.8	3,768,402	25,846	1,602,427	10.5

Note: see Tables B-1 through B-4 for more detailed information on each control alternative.

**BACT ANALYSIS CONCLUSION**

The implementation of a VOC collection and add-on air pollution control system is not concluded as BACT for the proposed finishing system modifications on the basis of excessive economic impacts. Therefore, the BACT conclusion based on the above analysis for VOC emissions from the proposed finishing equipment is the use of HVLP, air assisted, or airless spray gun technology (or equivalent).

**TABLE B-1**  
**REGENERATIVE THERMAL OXIDATION CAPITAL COST COMPONENTS**  
**MERRILLAT CORPORATION - OCALA, FLORIDA**

<b>DIRECT COSTS:</b>	<b>FACTOR (1)</b>	<b>EQUIPMENT COST (\$)</b>
(1) Purchased Equipment Costs (for one 60,000 cfm RTO unit)		
a) Basic Equipment		
1) Basic Equipment and Auxiliaries	(2)	914,600
2) Ductwork (estimated)		190,600
Subtotal of Basic Equipment	A	1,105,200
b) Instruments and Controls	0.1 A	110,520
c) Sales Tax	0.03A	33,156
d) Freight	0.05A	55,260
<b>Total Purchased Equipment Cost</b>	<b>B = 1.18 A</b>	<b>1,304,136</b>
(2) Direct Installation Costs		
a) Foundations and Supports	0.08 B	104,331
b) Handling and Erection	0.14 B	182,579
c) Electrical	0.04 B	52,165
d) Piping	0.02 B	26,083
e) Insulation	0.01 B	13,041
f) Painting	0.01 B	13,041
<b>Total Installed Direct Cost</b>	<b>0.30 B</b>	<b>391,241</b>
<b>TOTAL DIRECT COST</b>	<b>1.30 B</b>	<b>1,695,377</b>
<b>INDIRECT COSTS:</b>		
(3) Engineering	0.10 B	130,414
(4) Construction and Field Expenses	0.05 B	65,207
(5) Contractor Fees	0.10 B	130,414
(6) Start-up	0.02 B	26,083
(7) Performance Test	0.01 B	13,041
(8) Contingency	0.03 B	39,124
<b>TOTAL INDIRECT COST</b>	<b>0.31 B</b>	<b>404,282</b>
<b>TOTAL CAPITAL COST</b>	<b>1.61 B</b>	<b>2,099,659</b>

**TABLE B-1 (Continued)**  
**REGENERATIVE THERMAL OXIDATION OPERATING COST COMPONENTS**  
**MERRILLAT CORPORATION - OCALA, FLORIDA**

DIRECT OPERATING COSTS:	FACTOR	(1)	COST ( \$ )
Operating Labor (2 shifts/day)	1/2 hour per shift (\$30/hr)		7,500
Supervisory Labor	15% of Operating Labor		1,125
Maintenance Labor (2 shifts/day)	1/2 hour per shift (\$30/hr)		7,500
Maintenance Materials	100% of Maintenance Labor		7,500
Utilities			
a) Electricity	\$0.059/kwhr	(3)	57,985
b) Natural Gas (auxiliary fuel usage)	\$7.55/MMBtu	(4)	127,036
<b>Total Direct Operating Cost</b>			<b>208,646</b>
<b>INDIRECT OPERATING COSTS:</b>			
Overhead	60% of Labor and Materials		14,175
Administrative charges	2% of Total Capital Cost		41,993
Property Tax	1% of Total Capital Cost		20,997
Insurance	1% of Total Capital Cost		20,997
Capital Recovery	[CRF (5)][Total Capital Cost]		298,991
<b>Total Indirect Operating Cost</b>			<b>397,153</b>
<b>TOTAL ANNUALIZED COST (per unit)</b>			<b>605,799</b>
Total Estimated Annualized Cost for 2 Units		(6)	1,211,597
Tons Per Year of VOC Removed by Oxidation (90% overall C.E. basis)			145.8
<b>COST EFFECTIVENESS</b>			<b>8,310</b>
<b>(\$/ton VOC Removed)</b>			

**NOTES:**

1. Source: Section 3.2, Chapter 2 of EPA Air Pollution Control Cost Manual (Sixth Edition) EPA/452/B-02-001, January 2002, U.S. EPA Office of Air Quality Planning and Standards (OAQPS).
2. Purchased equipment cost & auxiliaries represents budget estimates from OAQPS Cost Manual.
3. Electricity demand calculated per hour as follows (from OAQPS Cost Manual):  

$$[(1.17E-4)(acfm)(\Delta P)/eff]$$

Where: acfm = exhaust actual cubic feet per minute  
delta P = pressure drop across system (21 inches of water)  
eff = combined fan and motor efficiency (60%)
4. Estimated fuel use based on attached fuel program. \$/MMBtu fuel cost is minimum cost paid over past year.
5. CRF (Capital Recovery Factor) = 0.1424 and is based on 10 year equipment life and 7 percent interest rate.
6. A total of 2 regenerative thermal oxidation systems are required to process approximately 120,000 cfm of exhaust air (60,000 cfm per unit) from the modified wood products finishing system.



**TABLE B-1a**  
**FUEL PROGRAM**  
**MERRILLAT CORPORATION - OCALA, FLORIDA**

	Thermal Oxidation	Catalytic Oxidation w/heat recovery	Catalytic Oxidation	Regenerative Thermal Oxidation
THERMAL ENERGY RECOVERY	0%	70%	0%	95%
VOC REMOVAL EFF. *	90%	90%	90%	90%
FUEL COST, \$/kft <sup>3</sup> (\$/MMBtu)	7.55	7.55	7.55	7.55
OPERATING HOURS, hr/yr	4000	4000	4000	4000
PROCESS EXHAUST VOLUME, scfm	60000	60000	60000	60000
PROCESS EXHAUST TEMP., Deg.F	120	120	120	120
VOC RATE, lb/hr	81.0	81.0	81.0	81.0
VOC HEAT VALUE, Btu/lb	15,000	15,000	15,000	15,000
INCIN TEMP., Deg.F	1600	850	850	1600
NET ENERGY REQUIRED, MMBtu/hr	95.90	47.30	47.30	95.90
TOTAL ENERGY RECOVERED, %	0%	70%	0%	95%
NET HEAT EXCHANGED, MMBtu/hr	0.00	33.11	0.00	91.11
NET VOC ENERGY CREDIT, MMBtu/hr	1.09	1.09	1.09	1.09
NET FUEL REQUIRED, MMBtu/hr	94.81	13.10	46.21	3.70
AVAILABLE FUEL ENERGY, %	88.00	88.00	88.00	88.00
GROSS FUEL REQUIRED, MMBtu/hr	107.74	14.88	52.51	4.21
<b>FUEL COST, \$/year</b>	<b>3,253,724</b>	<b>449,489</b>	<b>1,585,860</b>	<b>127,036</b>

\* VOC removal efficiency reflects overall efficiency based on 95% capture efficiency and 95% control efficiency.

**TABLE B-2**  
**THERMAL OXIDATION CAPITAL COST COMPONENTS**  
**MERILLAT CORPORATION - OCALA, FLORIDA**

DIRECT COSTS:	FACTOR (1)	EQUIPMENT COST (\$)
(1) Purchased Equipment Costs (for one 60,000 cfm RTO unit)		
a) Basic Equipment		
1) Basic Equipment and Auxiliaries	(2)	144,760
2) Ductwork (estimated)		190,600
Subtotal of Basic Equipment	A	335,360
b) Instruments and Controls	0.1 A	33,536
c) Sales Tax	0.03A	10,061
d) Freight	0.05A	16,768
<b>Total Purchased Equipment Cost</b>	<b>B = 1.18 A</b>	<b>395,725</b>
(2) Direct Installation Costs		
a) Foundations and Supports	0.08 B	31,658
b) Handling and Erection	0.14 B	55,401
c) Electrical	0.04 B	15,829
d) Piping	0.02 B	7,914
e) Insulation	0.01 B	3,957
f) Painting	0.01 B	3,957
<b>Total Installed Direct Cost</b>	<b>0.30 B</b>	<b>118,717</b>
<b>TOTAL DIRECT COST</b>	<b>1.30 B</b>	<b>514,442</b>
INDIRECT COSTS:		
(3) Engineering	0.10 B	39,572
(4) Construction and Field Expenses	0.05 B	19,786
(5) Contractor Fees	0.10 B	39,572
(6) Start-up	0.02 B	7,914
(7) Performance Test	0.01 B	3,957
(8) Contingency	0.03 B	11,872
<b>TOTAL INDIRECT COST</b>	<b>0.31 B</b>	<b>122,675</b>
<b>TOTAL CAPITAL COST</b>	<b>1.61 B</b>	<b>637,117</b>

**TABLE B-2 (Continued)**  
**THERMAL OXIDATION OPERATING COST COMPONENTS**  
**MERRILLAT CORPORATION - OCALA, FLORIDA**

DIRECT OPERATING COSTS:	FACTOR	(1)	COST ( \$ )
Operating Labor (2 shifts/day)	1/2 hour per shift (\$30/hr)		7,500
Supervisory Labor	15% of Operating Labor		1,125
Maintenance Labor (2 shifts/day)	1/2 hour per shift (\$30/hr)		7,500
Maintenance Materials	100% of Maintenance Labor		7,500
Utilities			
a) Electricity	\$0.059/kwhr	(3)	11,045
b) Natural Gas (auxiliary fuel usage)	\$7.55/MMBtu	(4)	3,253,724
<b>Total Direct Operating Cost</b>			<b>3,288,394</b>
<b>INDIRECT OPERATING COSTS:</b>			
Overhead	60% of Labor and Materials		14,175
Administrative charges	2% of Total Capital Cost		12,742
Property Tax	1% of Total Capital Cost		6,371
Insurance	1% of Total Capital Cost		6,371
Capital Recovery	[CRF (5)][Total Capital Cost]		90,725
<b>Total Indirect Operating Cost</b>			<b>130,385</b>
<b>TOTAL ANNUALIZED COST (per unit)</b>			<b>3,418,779</b>
Total Estimated Annualized Cost for 2 Units		(6)	6,837,558
Tons Per Year of VOC Removed by Oxidation (90% overall C.E. basis)			145.8
<b>COST EFFECTIVENESS</b>			<b>46,897</b>
<b>(\$/ton VOC Removed)</b>			

**NOTES:**

1. Source: Section 3.2, Chapter 2 of EPA Air Pollution Control Cost Manual (Sixth Edition)  
EPA/452/B-02-001, January 2002, U.S. EPA Office of Air Quality Planning and Standards (OAQPS).
2. Purchased equipment cost & auxiliaries represents budget estimates from OAQPS Cost Manual.
3. Electricity demand calculated per hour as follows (from OAQPS Cost Manual):  

$$[(1.17E-4)(acfm)(\Delta P)/eff]$$

Where: acfm = exhaust actual cubic feet per minute  
 $\Delta P$  = pressure drop across system (4 inches of water)  
eff = combined fan and motor efficiency (60%)
4. Estimated fuel use based on attached fuel program. \$/MMBtu fuel cost is minimum cost paid over past year.
5. CRF (Capital Recovery Factor) = 0.1424 and is based on 10 year equipment life and 7 percent interest rate.
6. A total of 2 thermal oxidation systems are required to process approximately 120,000 cfm of exhaust air (60,000 cfm per unit) from the modified wood products finishing system.

**TABLE B-3**  
**CATALYTIC OXIDATION (w/heat recovery) CAPITAL COST COMPONENTS**  
**MERRILLAT CORPORATION - OCALA, FLORIDA**

<b>DIRECT COSTS:</b>	<b>FACTOR (1)</b>	<b>EQUIPMENT COST (\$)</b>
(1) Purchased Equipment Costs (for one 60,000 cfm RTO unit)		
a) Basic Equipment		
1) Basic Equipment and Auxiliaries	(2)	631,180
2) Ductwork (estimated)		190,600
Subtotal of Basic Equipment	A	821,780
b) Instruments and Controls	0.1 A	82,178
c) Sales Tax	0.03A	24,653
d) Freight	0.05A	41,089
<b>Total Purchased Equipment Cost</b>	<b>B = 1.18 A</b>	<b>969,700</b>
(2) Direct Installation Costs		
a) Foundations and Supports	0.08 B	77,576
b) Handling and Erection	0.14 B	135,758
c) Electrical	0.04 B	38,788
d) Piping	0.02 B	19,394
e) Insulation	0.01 B	9,697
f) Painting	0.01 B	9,697
<b>Total Installed Direct Cost</b>	<b>0.30 B</b>	<b>290,910</b>
<b>TOTAL DIRECT COST</b>	<b>1.30 B</b>	<b>1,260,611</b>
<b>INDIRECT COSTS:</b>		
(3) Engineering	0.10 B	96,970
(4) Construction and Field Expenses	0.05 B	48,485
(5) Contractor Fees	0.10 B	96,970
(6) Start-up	0.02 B	19,394
(7) Performance Test	0.01 B	9,697
(8) Contingency	0.03 B	29,091
<b>TOTAL INDIRECT COST</b>	<b>0.31 B</b>	<b>300,607</b>
<b>TOTAL CAPITAL COST</b>	<b>1.61 B</b>	<b>1,561,218</b>

**TABLE B-3 (Continued)**  
**CATALYTIC OXIDATION (w/heat recovery) CAPITAL COST COMPONENTS**  
**MERRILLAT CORPORATION - OCALA, FLORIDA**

DIRECT OPERATING COSTS:	FACTOR	(1)	COST ( \$ )
Operating Labor (2 shifts/day)	1/2 hour per shift (\$30/hr)		7,500
Supervisory Labor	15% of Operating Labor		1,125
Maintenance Labor (2 shifts/day)	1/2 hour per shift (\$30/hr)		7,500
Maintenance Materials	100% of Maintenance Labor		7,500
Utilities			
a) Electricity	\$0.059/kwhr	(3)	57,985
b) Natural Gas (auxiliary fuel usage)	\$7.55/MMBtu	(4)	449,489
<b>Total Direct Operating Cost</b>			<b>531,099</b>
<b>INDIRECT OPERATING COSTS:</b>			
Overhead	60% of Labor and Materials		14,175
Administrative charges	2% of Total Capital Cost		31,224
Property Tax	1% of Total Capital Cost		15,612
Insurance	1% of Total Capital Cost		15,612
Capital Recovery	[CRF (5)][Total Capital Cost]		222,317
<b>Total Indirect Operating Cost</b>			<b>298,941</b>
<b>TOTAL ANNUALIZED COST (per unit)</b>			<b>830,041</b>
Total Estimated Annualized Cost for 2 Units		(6)	1,660,081
Tons Per Year of VOC Removed by Oxidation (90% overall C.E. basis)			145.8
<b>COST EFFECTIVENESS</b>			<b>11,386</b>
<b>(\$/ton VOC Removed)</b>			

**NOTES:**

- Source: Section 3.2, Chapter 2 of EPA Air Pollution Control Cost Manual (Sixth Edition) EPA/452/B-02-001, January 2002, U.S. EPA Office of Air Quality Planning and Standards (OAQPS).
- Purchased equipment cost & auxiliaries represents budget estimates from OAQPS Cost Manual.
- Electricity demand calculated per hour as follows (from OAQPS Cost Manual):  

$$[(1.17E-4)(acfm)(\Delta P)/eff]$$

Where:      acfm = exhaust actual cubic feet per minute  
                   $\Delta P$  = pressure drop across system (21 inches of water)  
                  eff = combined fan and motor efficiency (60%)
- Estimated fuel use based on attached fuel program. \$/MMBtu fuel cost is minimum cost paid over past year.
- CRF (Capital Recovery Factor) = 0.1424 and is based on 10 year equipment life and 7 percent interest rate.
- A total of 2 catalytic oxidation systems are required to process approximately 120,000 cfm of exhaust air (60,000 cfm per unit) from the modified wood products finishing system.

**TABLE B-4**  
**CATALYTIC OXIDATION CAPITAL COST COMPONENTS**  
**MERRILLAT CORPORATION - OCALA, FLORIDA**

DIRECT COSTS:	FACTOR (1)	EQUIPMENT COST (\$)
(1) Purchased Equipment Costs (for one 60,000 cfm RTO unit)		
a) Basic Equipment		
1) Basic Equipment and Auxiliaries	(2)	513,460
2) Ductwork (estimated)		190,600
Subtotal of Basic Equipment	A	704,060
b) Instruments and Controls	0.1 A	70,406
c) Sales Tax	0.03A	21,122
d) Freight	0.05A	35,203
<b>Total Purchased Equipment Cost</b>	<b>B = 1.18 A</b>	<b>830,791</b>
(2) Direct Installation Costs		
a) Foundations and Supports	0.08 B	66,463
b) Handling and Erection	0.14 B	116,311
c) Electrical	0.04 B	33,232
d) Piping	0.02 B	16,616
e) Insulation	0.01 B	8,308
f) Painting	0.01 B	8,308
<b>Total Installed Direct Cost</b>	<b>0.30 B</b>	<b>249,237</b>
<b>TOTAL DIRECT COST</b>	<b>1.30 B</b>	<b>1,080,028</b>
INDIRECT COSTS:		
(3) Engineering	0.10 B	83,079
(4) Construction and Field Expenses	0.05 B	41,540
(5) Contractor Fees	0.10 B	83,079
(6) Start-up	0.02 B	16,616
(7) Performance Test	0.01 B	8,308
(8) Contingency	0.03 B	24,924
<b>TOTAL INDIRECT COST</b>	<b>0.31 B</b>	<b>257,545</b>
<b>TOTAL CAPITAL COST</b>	<b>1.61 B</b>	<b>1,337,573</b>

**TABLE B-4 (Continued)**  
**CATALYTIC OXIDATION OPERATING COST COMPONENTS**  
**MERRILLAT CORPORATION - OCALA, FLORIDA**

DIRECT OPERATING COSTS:	FACTOR	(1)	COST ( \$ )
Operating Labor (2 shifts/day)	1/2 hour per shift (\$30/hr)		7,500
Supervisory Labor	15% of Operating Labor		1,125
Maintenance Labor (2 shifts/day)	1/2 hour per shift (\$30/hr)		7,500
Maintenance Materials	100% of Maintenance Labor		7,500
Utilities			
a) Electricity	\$0.059/kwhr	(3)	16,567
b) Natural Gas (auxiliary fuel usage)	\$7.55/MMBtu	(4)	1,585,860
<b>Total Direct Operating Cost</b>			<b>1,626,053</b>
<b>INDIRECT OPERATING COSTS:</b>			
Overhead	60% of Labor and Materials		14,175
Administrative charges	2% of Total Capital Cost		26,751
Property Tax	1% of Total Capital Cost		13,376
Insurance	1% of Total Capital Cost		13,376
Capital Recovery	[CRF (5)][Total Capital Cost]		190,470
<b>Total Indirect Operating Cost</b>			<b>258,148</b>
<b>TOTAL ANNUALIZED COST (per unit)</b>			<b>1,884,201</b>
Total Estimated Annualized Cost for 2 Units		(6)	3,768,402
Tons Per Year of VOC Removed by Oxidation (90% overall C.E. basis)			145.8
<b>COST EFFECTIVENESS</b>			<b>25,846</b>
<b>(\$/ton VOC Removed)</b>			

**NOTES:**

- Source: Section 3.2, Chapter 2 of EPA Air Pollution Control Cost Manual (Sixth Edition)  
EPA/452/B-02-001, January 2002, U.S. EPA Office of Air Quality Planning and Standards (OAQPS).
- Purchased equipment cost & auxiliaries represents budget estimates from OAQPS Cost Manual.
- Electricity demand calculated per hour as follows (from OAQPS Cost Manual):  

$$[(1.17E-4)(acfm)(\Delta P)/eff]$$

Where:      acfm = exhaust actual cubic feet per minute  
                   $\Delta P$  = pressure drop across system (6 inches of water)  
                  eff = combined fan and motor efficiency (60%)
- Estimated fuel use based on attached fuel program. \$/MMBtu fuel cost is minimum cost paid over past year.
- CRF (Capital Recovery Factor) = 0.1424 and is based on 10 year equipment life and 7 percent interest rate.
- A total of 2 catalytic oxidation systems are required to process approximately 120,000 cfm of exhaust air (60,000 cfm per unit) from the modified wood products finishing system.

**APPENDIX B**

**RACT/BACT/LAER Clearinghouse Summary &  
Detailed Report**



**TABLE B-5**  
**Summary of RBLC Determinations for VOC Emissions from Wood Products/Furniture Surface Coating (1994 - 2004)**

RBLC ID	Facility	Permit Date	Process	Allowable VOC Emission Rate	Determination
AL-0083	Wellborn Cabinet, Inc.	09/08/95	Wood cabinet manufacturing	797.0 TPY	HVLP and air assisted/airless spray guns (BACT)
AZ-0024	Thornwood Furniture Mfg. Inc.	06/13/94	Coating, wood furniture	760.0 lb/day; 99.0 TPY	High transfer efficiency, low VOC coatings (BACT)
CA-0634	Custom Woodcraft	12/13/94	Wood coating operation	No emission limits listed	Low VOC coatings (BACT)
CA-0726	Creations in Wood, Inc.	09/12/96	Coating booth	12.5 lb/day	Low VOC coatings & HVLP spray guns (LAER)
CA-0769	Guy Chaddock & Company	03/07/97	Coating application	250.0 lb/day; 10.0 TPY	HVLP spray guns (LAER)
CA-0772	Enviroplex	12/18/01	Exterior Coating of Panels	18.8 - 25.0 lb/day	HVLP spray guns, low VOC coatings (LAER)
CA-0804	American Door Manufacturing	11/21/96	Wood products coating operation	21.7 lb/day 15.4 lb/day	HVLP spray guns and Low VOC coatings (LAER)
CA-0815	Sandberg Furniture Co., Inc.	12/18/01	Coating wood furniture	0.0164 lb/day	Roller coaters and UV cure section (LAER)
CA-0873	Sandberg Furniture Co., Inc.	02/21/97	Coating and drying system	1689 lb/day	Low VOC coatings (BACT)
CA-0891	Arbek Manufacturing, Inc.	04/26/00	Spray booth	346.0 lb/day	Low VOC coatings (BACT)
CA-0995	Feathers Custom Wood Products	12/01/02	Coating operation	3900.0 lb/quarter	Low VOC coatings and high transfer equipment (LAER)
IA-0042	Omega Cabinets	04/10/98	Spray line	215.0 TPY	High transfer efficiency (BACT)
IN-0113	Masterbrand Cabinets	02/03/03	Spray booths	200 TPY 16.67 tons/month	RTO (BACT)
MI-0286	Steelcase Wood Furniture	01/06/00	Surface coating	See note below <sup>(1)</sup>	HVLP, automatic electrostatic spray. Capture & control system (RTO) for tiecoats and washcoats (BACT)
MN-0037	Crystal Cabinet Works, Inc.	10/03/01	Surface coating, spray finishing	See note below <sup>(1)</sup>	High transfer efficiency, reformulated coatings (BACT)
MS-0042	Batesville Casket Company	03/15/99	Wood finishing line	46.15 TPY	Low VOC coatings (BACT)
NC-0079	Masterbrand Cabinets	09/05/01	Spray booths	620.0 TPY	Low VOC coatings (BACT)
NC-0080	Marsh Furniture Company	01/28/02	Surface coating	800.0 TPY	Low VOC coatings (BACT)
NC-0098	Homanit USA, Inc.	03/19/02	Surface coating line	140.0 TPY	Low VOC coatings (BACT)
NC-0100	Steelcase, Inc.	03/03/98	Surface coating, furniture finishing	913.0 TPY	Non-photochemically reactive solvents (BACT)
OH-0249	Sauder Woodworking Company	08/18/99	Stain roller application	6.8 lb/hr	Basis listed as SIP
TN-0084	Bruce Hardwood Flooring	07/10/98	Surface coating	6.53 tons/month; 78.3 TPY	Rollcoat applicators and UV cure sealers/topcoats (BACT)
VA-0217	Dutailier Virginia, Inc.	03/17/94	Coating, production booth	160.9 lb/hr; 153.8 TPY	HVLP spray guns (BACT)
VA-0237	Vaughan Furniture Company	08/28/96	Spray booths	232.0 TPY	Airless spray nozzles (MACT)
VA-0242	Stanley Furniture	05/31/99	Paint spray booths	350.0 TPY	HVLP and air assisted/airless spray guns (BACT)
VA-0243	Stanley Furniture	12/01/02	Surface coating	338.0 TPY	Limit on VOC throughput (BACT)
VA-0286	Merillat Corporation	01/05/04	Wood furniture finishing system	288.0 lb/hr; 240.0 TPY	Good control (operating) practices (MACT)
WI-0110	Bemis Manufacturing Co.	05/13/99	Flow coating line	24.73 lb/hr	Low VOC content (BACT)

(1) Emission limits listed on lb/gallon basis.

DETAILED SOURCE LISTING

Report Date: 09/22/2004

**Facility Information**

<b>RBLC ID:</b>	VA-0286 (final)	<b>Date Last Updated:</b>	03/19/2004
<b>Company Name:</b>	MERILLAT CORPORATION	<b>Permit/File No.:</b>	11075
<b>Plant Name:</b>	MERILLAT CORPORATION PLANT 14	<b>Permit Date:</b>	01/05/2004 (actual)
<b>EPA Region:</b>	3	<b>SIC Code:</b>	2434
<b>County/State:</b>	SMYTH / VA	<b>NAICS:</b>	33711
<b>Permit Issued By:</b>	VIRGINIA ENVIRONMENTAL QUALITY AIR DIV. (agency) CLIFF MUSICK (contact) (540) 676-4833		
<b>Plant Description:</b>	EQUIPMENT TO BE CONSTRUCTED AT THIS FACILITY CONSISTS OF 1 WOOD SANDING SYSTEM RATED AT 4,000 SQUARE FT/HR; 1 WOOD BRUSHING SYSTEM RATED AT 4,000 SQUARE FT/HR; 3 FIXED ROOF STORAGE TANKS EACH WITH LESS THAN 10,000 GALLONS CAPACITY; AND 1 WOOD FURNITURE FINISHING SYSTEM RATED AT 48 GALLONS/HR INCLUDING 24 PRODUCTION SYSTEMS, OR EQUIVALENT SPRAY BOOTHS; 12 PRODUCTIONS SYSTEMS OR EQUIVALENT NATURAL GAS FIRED CURING OVENS RATED BETWEEN 0.5 AND 4.5 MMBTU/HR EACH.		

Notes:

**Process/Pollutant Information**

<b>PROCESS:</b>	WOOD SANDING AND BRUSHING SYSTEMS		
<b>Process Type:</b>	30.007 (Woodworking)		
<b>Primary Fuel:</b>		<b>SCC Code:</b>	30702003
<b>Throughput:</b>		<b>Compliance Verified:</b>	No
<b>Process Notes:</b>	WOOD SANDING AND BRUSHING SYSTEMS		

<b>POLLUTANT:</b>	PM	<b>CAS No.:</b>	PM	
<b>Emission Limit 1:</b>		7.7600	LB/H	<b>Basis:</b> NSPS
<b>Emission Limit 2:</b>		0.0100	GR/DSCF	<b>% Efficiency:</b>

**Standard Emission:**

**Control Method:** (P) FABRIC FILTER BAGHOUSES

**Pollutant Notes:** Additional limit: 34 t/yr. EMISSIONS FROM THE OPERATION OF ALL WOODWORKING MACHINERY AT THE FACILITY SHALL NOT EXCEED THIS LIMIT

**POLLUTANT:** PM10      **CAS No.:** PM  
**Emission Limit 1:** 7.7600 LB/H      **Basis:** NSPS  
**Emission Limit 2:** 0.0100 GR/DSCF      **% Efficiency:**  
**Standard Emission:**  
**Control Method:** (P) FARBRIC FILTER BAGHOUSES  
**Pollutant Notes:** Additional limit: 34 t/yr. EMISSIONS FROM THE OPERATION OF ALL WOODWORKING MACHINERY AT THE FACILITY SHALL NOT EXCEED THIS LIMIT

Process/Pollutant Information
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**PROCESS:** WOOD FINISHING  
**Process Type:** 41.025 (Wood Products/Furniture Surface Coating (except 41.006))  
**Primary Fuel:**      **SCC Code:** 40201901  
**Throughput:**      **Compliance Verified:** No  
**Process Notes:** WOOD FURNITURE FINISHING SYSTEM CONSISTS OF SPRAY BOOTHS AND CURING OVENS

**POLLUTANT:** PM10      **CAS No.:** PM  
**Emission Limit 1:** 4.8000 LB/H      **Basis:** MACT  
**Emission Limit 2:** 4.0000 T/YR      **% Efficiency:**  
**Standard Emission:**  
**Control Method:** (P) FIBERGLASS FILTERS  
**Pollutant Notes:** TOTAL EMISSIONS FROM THE OPERATION OF THE FINISHING SYSTEMS SHALL NOT EXCEED THESE SPECIFIED LIMITS

**POLLUTANT:** VOC      **CAS No.:** VOC  
**Emission Limit 1:** 288.0000 LB/H      **Basis:** MACT  
**Emission Limit 2:** 240.0000 T/YR      **% Efficiency:**  
**Standard Emission:**  
**Control Method:** (P) GOOD CONTROL PRACTICES FOR MINIMIZING EMISSIONS  
**Pollutant Notes:** TOTAL EMISSIONS FROM THE OPERATION OF THE FINISHING SYSTEMS SHALL NOT EXCEED THESE SPECIFIED LIMITS

**Facility Information**

<b>RBLC ID:</b>	IN-0113 (final)	<b>Date Last Updated:</b>	05/28/2004
<b>Company Name:</b>	MASTERBRAND CABINETS, INC.	<b>Permit/File No.:</b>	037-13893-00051-2434
<b>Plant Name:</b>	MASTERBRAND CABINETS, INC.	<b>Permit Date:</b>	02/03/2003 (actual)
<b>EPA Region:</b>	5	<b>SIC Code:</b>	2434
<b>County/State:</b>	DUBOIS / IN	<b>NAICS:</b>	33711
<b>Permit Issued By:</b>	INDIANA DEPT OF ENV MGMT, OFC OF AIR (agency) GURINDER SAINI (contact) 317-233-0203		
<b>Plant Description:</b>	WOODEN CABINET MANUFACTURING		
<b>Notes:</b>	Modification to construct and operate an electrostatic finishing line consisting of 6 new spray booths: stain, sealer, and topcoat; and existing spray booths for toner, sealer touch-up, and topcoat touch-up booths, and a curing oven.		

**Process/Pollutant Information**

<b>PROCESS:</b>	SPRAY BOOTHS		
<b>Process Type:</b>	41.025 (Wood Products/Furniture Surface Coating (except 41.006))		
<b>Primary Fuel:</b>	NATURAL GAS	<b>SCC Code:</b>	40201901
<b>Throughput:</b>	766.00 UNIT/H	<b>Compliance Verified:</b>	No
<b>Process Notes:</b>	6 spray booths: 2 stain spray booths, 2 sealer spray booths, 2 topcoat spray booths, all using electrostatic spray applicators, using dry filters as particulate controls.		

<b>POLLUTANT:</b>	VOC	<b>CAS No.:</b>	VOC	
<b>Emission Limit 1:</b>	200.0000 T/YR	<b>Basis:</b>	BACT-PSD	
<b>Emission Limit 2:</b>	16.6700 T/MO	<b>% Efficiency:</b>		
<b>Standard Emission:</b>				
<b>Control Method:</b>	(B) NATURAL GAS FIRED RTO, MAXIMUM HEAT INPUT: 7.9 MMBTU/H; USAGE LIMITS			
<b>Pollutant Notes:</b>	Limits above are for the operations 12 months after beginning use of the RTO. Additional limit is 50 t/quarter. From the date of the permit until commencement of the RTO, input of VOC < 381 t/yr; 95.25 t/quarter; or 31.75 t/mo.			

<b>POLLUTANT:</b>	HAP	<b>CAS No.:</b>	HAP
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**Emission Limit 1:** 1.0000 LB/LB SOLIDS weighted avg **Basis:** NESHAP  
**Emission Limit 2:** 1.0000 LB/LB SOLIDS max for coatings (see note) **% Efficiency:**  
**Standard Emission:**  
**Control Method:** (B) EITHER COATING VOLATILE HAP (VHAP) CONTENT LIMITS OR CONTROL DEVICE (RTO, IN THIS CASE)  
**Pollutant Notes:** 1 lb/lb solids max for all stains, washcoats, sealers, topcoats, basecoats, & enamels.

**Facility Information**

**RBL ID:** CA-0995 (final) **Date Last Updated:** 09/03/2003  
**Company Name:** FEATHERS CUSTOM WOOD PRODUCTS **Permit/File No.:** 16563  
**Plant Name:** FEATHERS CUSTOM WOOD PRODUCTS **Permit Date:** 12/01/2002 (actual)  
**EPA Region:** 9 **SIC Code:** 2511  
**County/State:** SACRAMENTO COUNTY / CA **NAICS:** 337122  
**Permit Issued By:** SACRAMENTO METROPOLITAN AQMD, CA (agency)  
 JORGE DEGUZMAN (contact) (916)874-4860  
**Plant Description:** CUSTOM WOODWORKING FACILITY  
**Notes:**

**Process/Pollutant Information**

**PROCESS:** COATING OPERATION  
**Process Type:** 41.025 (Wood Products/Furniture Surface Coating (except 41.006))  
**Primary Fuel:** **SCC Code:** 40201901  
**Throughput:** **Compliance Verified:** No

**Process Notes:** PAINT SPRAY BOOTH

**POLLUTANT:** VOC      **CAS No.:** VOC

**Emission Limit 1:** 3900.0000 LB/QTR QUARTER

**Basis:** LAER

**Emission Limit 2:**

**% Efficiency:**

**Standard Emission:**

**Control Method:** (P) LOW VOC COATING AND HIGH TRANSFER EQUIPMENT

**Pollutant Notes:** BACT DETERMINATION: ACHIEVED IN PRACTICE. Limit for each quarter - 3 months.

### Facility Information

<b>RBLC ID:</b>	VA-0243 (final)	<b>Date Last Updated:</b>	12/03/2002
<b>Company Name:</b>		<b>Permit/File No.:</b>	31027
<b>Plant Name:</b>	STANLEY FURNITURE	<b>Permit Date:</b>	12/01/2002 (estimated)
<b>EPA Region:</b>	3	<b>SIC Code:</b>	2511
<b>County/State:</b>	HENRY / VA	<b>NAICS:</b>	337122
<b>Permit Issued By:</b>	VIRGINIA ENVIRONMENTAL QUALITY AIR DIV. (agency) STEVE DIETRICH (contact) (540) 562-6762		
<b>Plant Description:</b>	WOOD HOUSEHOLD FURNITURE MFG.		
<b>Notes:</b>			

### Process/Pollutant Information

**PROCESS:** BOILER, NAT GAS & OIL  
**Process Type:** 13.310 (Natural Gas (includes propane and liquefied petroleum gas))

**Primary Fuel:** NATURAL GAS **SCC Code:** 10200602

**Throughput:** 26.50 MMBTU/H **Compliance Verified:** No

**Process Notes:** KEWANEE NATURAL GAS/DISTILLATE OIL BOILER. THROUGHPUT 26.5 MMBTU/HR - 450,000 GAL #2 OIL. ADDITIONAL SCC, 10200502. FOR ALL POLLUTANTS, NO CONTROLS, EMISSION LIMITS IN T/YR ONLY

**POLLUTANT:** NOX **CAS No.:** 10102  
**Emission Limit 1:** 12.8000 T/YR **Basis:** BACT-OTHER  
**Emission Limit 2:** **% Efficiency:**  
**Standard Emission:** NOT AVAILABLE  
**Control Method:** (N) EMISSION LIMITS IN T/YR ONLY  
**Pollutant Notes:**

**POLLUTANT:** PM10 **CAS No.:** PM  
**Emission Limit 1:** 0.9000 T/YR **Basis:** BACT-OTHER  
**Emission Limit 2:** **% Efficiency:**  
**Standard Emission:** NOT AVAILABLE  
**Control Method:** (N) NO CONTROLS LISTED. EMISSION LIMITS IN T/YR ONLY  
**Pollutant Notes:**

**POLLUTANT:** SO2 **CAS No.:** 7446-09-5  
**Emission Limit 1:** 16.0000 T/YR **Basis:** BACT-OTHER  
**Emission Limit 2:** **% Efficiency:**  
**Standard Emission:** NOT AVAILABLE  
**Control Method:** (N) EMISSION LIMITS IN T/YR ONLY  
**Pollutant Notes:**

**POLLUTANT:** CO **CAS No.:** 630-08-0  
**Emission Limit 1:** 9.4000 T/YR **Basis:** BACT-OTHER  
**Emission Limit 2:** **% Efficiency:**  
**Standard Emission:** NOT AVAILABLE  
**Control Method:** (N) EMISSION LIMITS IN T/YR ONLY  
**Pollutant Notes:**

**POLLUTANT:** PM      **CAS No.:** PM  
**Emission Limit 1:**      1.1000 T/YR      **Basis:** BACT-OTHER  
**Emission Limit 2:**                **% Efficiency:**  
**Standard Emission:**      NOT AVAILABLE  
**Control Method:**      (N) EMISSION LIMITS IN T/YR ONLY  
**Pollutant Notes:**

Process/Pollutant Information
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**PROCESS:**      WOOD FURNITURE MANUFACTURING, WOODWORKING  
**Process Type:**      30.007 (Woodworking)  
**Primary Fuel:**                **SCC Code:**      307020  
**Throughput:**                **Compliance Verified:** No  
**Process Notes:**

**POLLUTANT:** PM      **CAS No.:** PM  
**Emission Limit 1:**      17.4000 T/YR      **Basis:** BACT-OTHER  
**Emission Limit 2:**      0.0040 GR/DSCF      **% Efficiency:**  
**Standard Emission:**  
**Control Method:**      (A) BAGHOUSE/FABRIC FILTERS.  
**Pollutant Notes:**

**POLLUTANT:** PM10      **CAS No.:** PM  
**Emission Limit 1:**      8.7000 T/YR      **Basis:** BACT-OTHER  
**Emission Limit 2:**      0.0020 GR/DSCF      **% Efficiency:**  
**Standard Emission:**  
**Control Method:**      (A) BAGHOUSE/FABRIC FILTERS.  
**Pollutant Notes:**

Process/Pollutant Information
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**PROCESS:** WOOD FURNITURE MANUFACTURING, SURFACE COATING  
**Process Type:** 41.025 (Wood Products/Furniture Surface Coating (except 41.006))  
**Primary Fuel:** **SCC Code:** 40201901  
**Throughput:** **Compliance Verified:** No  
**Process Notes:**

**POLLUTANT:** VOC **CAS No.:** VOC  
**Emission Limit 1:** 338.0000 T/YR **Basis:** BACT-PSD  
**Emission Limit 2:** **% Efficiency:**  
**Standard Emission:**  
**Control Method:** (P) PLANT TOOK A LIMIT ON VOC THROUGHPUT  
**Pollutant Notes:**

**POLLUTANT:** PM10 **CAS No.:** PM  
**Emission Limit 1:** 4.8000 T/YR **Basis:** BACT-OTHER  
**Emission Limit 2:** **% Efficiency:**  
**Standard Emission:**  
**Control Method:** (B) OVERSPRAY CONTROLS AND WATER CURTAINS  
**Pollutant Notes:**

<b>Facility Information</b>
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<b>RBL ID:</b> NC-0098 (final)	<b>Date Last Updated:</b> 04/02/2004
<b>Company Name:</b> HOMANIT USA, INC.	<b>Permit/File No.:</b> 08803R02
<b>Plant Name:</b> HOMANIT USA, INC. MT. GILEAD	<b>Permit Date:</b> 03/19/2002 (actual)

**EPA Region:** 4 **SIC Code:** 2493  
**County/State:** MONTGOMERY / NC **NAICS:** 321219  
**Permit Issued By:** NORTH CAROLINA DIV OF ENV MGMT (agency)  
 BRUCE INGLE (contact) (919) 715-6241  
**Plant Description:** THIN HIGH DENSITY FIBERBOARD MANUFACTURING  
**Notes:** Modification to construct a surface coating line at its thin high-density fiberboard (THDF) manufacturing facility.

<b>Process/Pollutant Information</b>
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**PROCESS:** SURFACE COATING LINE  
**Process Type:** 41.025 (Wood Products/Furniture Surface Coating (except 41.006))  
**Primary Fuel:** **SCC Code:** 402021  
**Throughput:** **Compliance Verified:** No  
**Process Notes:** one rotographic surface coating line (ID No. ES-50)

**POLLUTANT:** VOC **CAS No.:** VOC  
**Emission Limit 1:** 140.0000 T/YR 12 mo rolling avg **Basis:** BACT-PSD  
**Emission Limit 2:** **% Efficiency:**  
**Standard Emission:**  
**Control Method:** (P) LOW VOC COATINGS  
**Pollutant Notes:** MACT limit for VOC is 0.01 HAP/gal solids, supplier certification

<b>Facility Information</b>
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**RBLC ID:** NC-0080 (final) **Date Last Updated:** 03/12/2004  
**Company Name:** MARSH FURNITURE COMPANY **Permit/File No.:** 03238R15

<b>Plant Name:</b>	MARSH FURNITURE COMPANY	<b>Permit Date:</b>	01/28/2002 (actual)
<b>EPA Region:</b>	4	<b>SIC Code:</b>	2511
<b>County/State:</b>	GUILFORD / NC	<b>NAICS:</b>	337122
<b>Permit Issued By:</b>	NORTH CAROLINA DIV OF ENV MGMT (agency) BOOKER PULLEN (contact) (919) 715-6248		
<b>Plant Description:</b>	FURNITURE MANUFACTURING		
<b>Notes:</b>	Modification is to install 2 new surface coating lines to eventually replace 3 existing flat lines, and to replace the equipment in the roller room with a new flat-type surface coating line. The PSD review will address BACT for the finishing/coating operations, only VOC emissions are subject to BACT.		

<b>Process/Pollutant Information</b>
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**PROCESS:** SURFACE COATING, HANGING LINE (2)  
**Process Type:** 41.025 (Wood Products/Furniture Surface Coating (except 41.006))  
**Primary Fuel:** **SCC Code:** 40201901  
**Throughput:** **Compliance Verified:** No  
**Process Notes:** Hanging lines 1&2: conveyORIZED hanging systems with 6 spray booth pairs per line. Lines include sections where each coating stage is cured in natural gas fired ovens. Each booth will be constructed with an over spray paint arrestor pad to capture potential emissions of pm10. Spray booths are: SAP/qualizer, stain, wiping stain, sealer/topcoat, glaze, and topcoats.

<b>POLLUTANT:</b> VOC	<b>CAS No.:</b> VOC	
<b>Emission Limit 1:</b>	800.0000 T/YR facility-wide limit	<b>Basis:</b> BACT-PSD
<b>Emission Limit 2:</b>		<b>% Efficiency:</b>
<b>Standard Emission:</b>		
<b>Control Method:</b>	(P) VOC LIMITS FOR COATINGS	
<b>Pollutant Notes:</b>	VOC limits (lb VOC/gal, minus H2O & exempt solvents): transparent stains = 7.2; sealers=6.2; topcoats=5.5; basecoats/primers=6.4; enamels=5.6; edge coats=5.0; fillers=5.0; booth coater=4.0; booth prep, stripper=6.8.	

<b>Process/Pollutant Information</b>
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**PROCESS:** SURFACE COATING, FLAT LINE  
**Process Type:** 41.025 (Wood Products/Furniture Surface Coating (except 41.006))  
**Primary Fuel:** **SCC Code:** 40201901  
**Throughput:** **Compliance Verified:** No

**Process Notes:** The flat line will consist of 6 stages and will have small steam-heated cure ovens.

**POLLUTANT:** VOC      **CAS No.:** VOC

**Emission Limit 1:** 800.0000 T/YR facility wide limit

**Basis:** BACT-PSD

**Emission Limit 2:**

**% Efficiency:**

**Standard Emission:**

**Control Method:**

(P) VOC LIMITS ON SURFACE COATINGS

**Pollutant Notes:**

BACT limits for surface coatings, lb VOC/gal minus H<sub>2</sub>O and exempt solvents: transparent stains=7.2; sealers=6.2; topcoats= 5.5; basecoats/primers=6.4; enamels=5.6; edge coats=5.0; fillers=5.0; booth coater=4.0; booth prep, stripper=6.8.

### Facility Information

<b>RBLC ID:</b>	PA-0215 (final)	<b>Date Last Updated:</b>	09/04/2003
<b>Company Name:</b>	PELLA CORPORATION	<b>Permit/File No.:</b>	01-05032
<b>Plant Name:</b>	PELLA CORPORATION	<b>Permit Date:</b>	01/08/2002 (actual)
<b>EPA Region:</b>	3	<b>SIC Code:</b>	2431
<b>County/State:</b>	ADAMS / PA	<b>NAICS:</b>	321911
<b>Permit Issued By:</b>	PENNSYLVANIA DEP, BUR OF AIR QUAL CTRL (agency) RONALD DAVIS (contact) (717) 657-4587		
<b>Plant Description:</b>	WINDOW MANUFACTURING OPERATION, CONSTRUCTION OF WOOD TREATMENT PLANT		
<b>Notes:</b>	This facility is a window manufacturing plant, using catalytic oxidizer for emission reduction. The plant only uses natural gas.		

### Process/Pollutant Information

**PROCESS:** WINDOW MANUFACTURING

**Process Type:** 41.025 (Wood Products/Furniture Surface Coating (except 41.006))  
**Primary Fuel:** **SCC Code:** 40202101  
**Throughput:** **Compliance Verified:** Yes  
**Process Notes:** VOC capture efficiency 70% with DE efficiency of 95%

**POLLUTANT:** PM10      **CAS No.:** PM  
**Emission Limit 1:** 0.0200 GR/DSCF      **Basis:** BACT-OTHER  
**Emission Limit 2:**      **% Efficiency:**  
**Standard Emission:**  
**Control Method:** (N)  
**Pollutant Notes:**

**POLLUTANT:** SOX      **CAS No.:** 7446  
**Emission Limit 1:** 500.0000 PPM      **Basis:** BACT-OTHER  
**Emission Limit 2:**      **% Efficiency:**  
**Standard Emission:**  
**Control Method:** (N)  
**Pollutant Notes:**

<b>Facility Information</b>
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<b>RBLC ID:</b>	NC-0079 (final)	<b>Date Last Updated:</b>	03/12/2004
<b>Company Name:</b>	MASTERBRAND CABINETS	<b>Permit/File No.:</b>	08804R02
<b>Plant Name:</b>	MASTERBRAND CABINETS	<b>Permit Date:</b>	09/05/2001 (actual)
<b>EPA Region:</b>	4	<b>SIC Code:</b>	2511

**County/State:** LENOIR / NC **NAICS:** 337110  
**Permit Issued By:** NORTH CAROLINA DIV OF ENV MGMT (agency)  
 JOHN EVANS (contact) (919) 733-3340  
**Plant Description:** CABINET MANUFACTURING PLANT  
**Notes:** MODIFICATION FOR THE ADDITION OF A HIGH VOLUME LINE.

**Process/Pollutant Information**

**PROCESS:** TONER SPRAY BOOTHS, (4)  
**Process Type:** 41.025 (Wood Products/Furniture Surface Coating (except 41.006))  
**Primary Fuel:** **SCC Code:** 40201901  
**Throughput:** **Compliance Verified:** Yes  
**Process Notes:** FACILITY VOC LIMIT: 620 T/YR PER CONSECUTIVE 12 MONTH PERIOD.

**POLLUTANT:** VOC **CAS No.:** VOC  
**Emission Limit 1:** 7.1700 LB/GAL GALLON COATING APPLIED **Basis:** BACT-PSD  
**Emission Limit 2:** **% Efficiency:**  
**Standard Emission:**  
**Control Method:** (P) LOW VOC COATINGS  
**Pollutant Notes:**

**Process/Pollutant Information**

**PROCESS:** STAIN SPRAY BOOTHS, (4)  
**Process Type:** 41.025 (Wood Products/Furniture Surface Coating (except 41.006))  
**Primary Fuel:** **SCC Code:** 40201901  
**Throughput:** **Compliance Verified:** Yes  
**Process Notes:** FACILITY VOC LIMIT: 620 T/YR PER CONSECUTIVE 12 MONTH PERIOD.

**POLLUTANT:** VOC **CAS No.:** VOC  
**Emission Limit 1:** 6.3900 LB/GAL GALLON COATING APPLIED **Basis:** BACT-PSD  
**Emission Limit 2:** **% Efficiency:**  
**Standard Emission:**

**Control Method:** (P) LOW VOC COATINGS  
**Pollutant Notes:**

**Process/Pollutant Information**

**PROCESS:** PRE-SEAL BOOTHS, (4)  
**Process Type:** 41.025 (Wood Products/Furniture Surface Coating (except 41.006))  
**Primary Fuel:** **SCC Code:** 40201901  
**Throughput:** **Compliance Verified:** Yes  
**Process Notes:** FACILITY VOC LIMIT: 620 T/YR PER CONSECUTIVE 12 MONTH PERIOD.

**POLLUTANT:** VOC **CAS No.:** VOC  
**Emission Limit 1:** 5.7300 LB/GAL GALLON COATING APPLIED **Basis:** BACT-PSD  
**Emission Limit 2:** **% Efficiency:**  
**Standard Emission:**  
**Control Method:** (P) LOW VOC COATINGS  
**Pollutant Notes:**

**Process/Pollutant Information**

**PROCESS:** SEALER BOOTHS, (4)  
**Process Type:** 41.025 (Wood Products/Furniture Surface Coating (except 41.006))  
**Primary Fuel:** **SCC Code:** 40201901  
**Throughput:** **Compliance Verified:** Yes  
**Process Notes:** FACILITY VOC LIMIT: 620 T/YR PER CONSECUTIVE 12 MONTH PERIOD.

**POLLUTANT:** VOC **CAS No.:** VOC  
**Emission Limit 1:** 5.7300 LB/GAL GALLON COATING APPLIED **Basis:** BACT-PSD  
**Emission Limit 2:** **% Efficiency:**  
**Standard Emission:**  
**Control Method:** (P) LOW VOC COATINGS  
**Pollutant Notes:**

**Process/Pollutant Information**

**PROCESS:** TOPCOAT BOOTHS, (4)  
**Process Type:** 41.025 (Wood Products/Furniture Surface Coating (except 41.006))  
**Primary Fuel:** **SCC Code:** 40201901  
**Throughput:** **Compliance Verified:** Yes  
**Process Notes:** FACILITY VOC LIMIT: 620 T/YR PER CONSECUTIVE 12 MONTH PERIOD.

**POLLUTANT:** VOC **CAS No.:** VOC

**Emission Limit 1:** 5.7300 LB/GAL GALLON COATING APPLIED

**Basis:** BACT-PSD

**Emission Limit 2:**

**% Efficiency:**

**Standard Emission:**

**Control Method:** (P) LOW VOC COATINGS

**Pollutant Notes:**

**Facility Information**

**RBL ID:** CA-0891 (final) **Date Last Updated:** 11/21/2001  
**Company Name:** ARBEK MANUFACTURING, INC. **Permit/File No.:** 347744  
**Plant Name:** ARBEK MANUFACTURING, INC. **Permit Date:** 04/26/2000 (actual)  
**EPA Region:** 9 **SIC Code:** 2599  
**County/State:** SAN BERNARDINO / CA **NAICS:**  
**Permit Issued By:** CALIFORNIA AIR RESOURCES BOARD (agency)  
RAVI BHATIA (contact) (909) 396-2571



**Plant Description:**

**Notes:**

THERE ARE A TOTAL OF NINE SPRAY BOOTHS, EACH WITH A SEPARATE PERMIT TO CONSTRUCT ASSOCIATED WITH THIS PROJECT. AUTHORITY TO CONSTRUCT NUMBERS 347745, 347748, 347749, 347750, 347752, 347753, AND 347754. THE SPRAY BOOTHS ARE NOT ALL IDENTICAL.

<b>Process/Pollutant Information</b>
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**PROCESS:** SPRAY BOOTH, DRY-FILTER CONVEYORIZED

**Process Type:** 41.025 (Wood Products/Furniture Surface Coating (except 41.006))

**Primary Fuel:** **SCC Code:** 4-02-019-01

**Throughput:** **Compliance Verified:** Yes

**Process Notes:** ARB RECORD # A340-914-00 DRY-FILTER CONVEYORIZED SPRAY BOOTH USED TO COAT WOOD FURNITURE USING TOPCOAT, SEALER, ACETONE-BASED SEALER, HIGH SOLIDS STAIN AND LOW SOLIDS STAIN

**POLLUTANT:** VOC **CAS No.:** VOC

**Emission Limit 1:** 346.0000 LB/D

**Basis:** BACT-PSD

**Emission Limit 2:**

**% Efficiency:** 85.500

**Standard Emission:**

**Control Method:** (P) BACT DETERMINATION IS THE USE OF SUPER-LOW VOC COATINGS WITH REDUCTION EQUIVALENT TO AN AIR POLLUTION CONTROL SYSTEM. PERMIT LIMIT IS LB VOC/DAY LIMIT.

**Pollutant Notes:**

<b>Facility Information</b>
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**RBLC ID:** MI-0286 (final)

**Date Last Updated:** 11/21/2001

**Company Name:** STEELCASE WOOD FURNITURE

**Permit/File No.:** 286-99

**Plant Name:** STEELCASE WOOD FURNITURE **Permit Date:** 01/06/2000 (actual)  
**EPA Region:** 5 **SIC Code:** 2521  
**County/State:** KENT / MI **NAICS:**  
**Permit Issued By:** MICHIGAN DEPT OF ENVIRONMENTAL QUALITY (agency)  
 JACK LARSEN (contact) (517) 780-7850  
**Plant Description:** WOOD FURNITURE PLANT  
**Notes:** EPA ID - MID 982074452. THIS ENTRY INCLUDES HANGLINE PROCESS HAPS FROM PERMIT MOD # 286-99A. SRN: N0677, COMPRISING THE STEELCASE INC. - KENTWOOD COMPLEX, IS MAINLY SIC 2522. THIS PERMIT IS FOR A NEW WOOD FURNITURE MFG. FACILITY OF 600,000 SQ.FT., LOCATED AT 4100 68TH ST. CALEDONIA, MI 49316. EMISSIONS DESCRIPTIONS HEREIN PERTAIN ONLY TO THE WOOD FURNITURE OPERATIONS. ALL OF N0677 PERMITS TO INSTALL ARE IN RENEWABLE OPERATING PERMIT #199600211.

**Process/Pollutant Information**

**PROCESS:** SURFACE COATING, TIECOAT & SEALERS  
**Process Type:** 41.025 (Wood Products/Furniture Surface Coating (except 41.006))  
**Primary Fuel:** **SCC Code:** 40201901  
**Throughput:** **Compliance Verified:** Yes  
**Process Notes:** ALL TIECOATS AND WASHCOATS VENT TO RTO, INCLUDING BOOTHS, FLASHOFF, AND OVENS. 85% CAPTURE OF BOOTHS ON HIGH-VOLUME AND LOW-VOLUME LINES. OVENS AND HANGLINE BOOTHS CAPTURE = 80%.

**POLLUTANT:** VOC **CAS No.:** VOC  
**Emission Limit 1:** 5.9000 LB/GAL **Basis:** BACT-PSD  
**Emission Limit 2:** **% Efficiency:** 76.000  
**Standard Emission:**  
**Control Method:** (B) NO COATING TO EXCEED 5.9 LB/GAL AS APPLIED. HIGH-TRANSFER APPLICATION OF AAA-HVLP ON HIGH-VOLUME AND LOW-VOLUME FLAT LINES. APPLICATION BY AUTOMATIC ELECTROSTATIC AND MANUAL HVLP ON HANGLINE. RTO DESTRUCTION 95+%.  
**Pollutant Notes:**

**Process/Pollutant Information**

**PROCESS:** SURFACE COATING, TOPCOATS, WATER-BASED  
**Process Type:** 41.025 (Wood Products/Furniture Surface Coating (except 41.006))

**Primary Fuel:**  
**Throughput:**  
**Process Notes:**

**SCC Code:** 40201901  
**Compliance Verified:** Yes

**POLLUTANT:** VOC      **CAS No.:** VOC  
**Emission Limit 1:** 1.3000 LB/GAL      **Basis:** BACT-PSD  
**Emission Limit 2:**      **% Efficiency:**  
**Standard Emission:**  
**Control Method:** (P) WATER-BASED. NO COATING TO EXCEED 1.3 LB/GAL AS APPLIED. HIGH TRANSFER EFFICIENCY BY AAA-HVLP. LIMIT IS LB/GAL AS APPLIED.  
**Pollutant Notes:**

Process/Pollutant Information

**PROCESS:** SURFACE COATING, UV TOPCOATS  
**Process Type:** 41.025 (Wood Products/Furniture Surface Coating (except 41.006))  
**Primary Fuel:**      **SCC Code:** 40201901  
**Throughput:**      **Compliance Verified:** Yes  
**Process Notes:** ROBOTIC SPRAY OF UV-CURABLE TOPCOATS.

**POLLUTANT:** VOC      **CAS No.:** VOC  
**Emission Limit 1:** 4.5500 LB/GAL      **Basis:** BACT-PSD  
**Emission Limit 2:**      **% Efficiency:**  
**Standard Emission:**  
**Control Method:** (P) HIGH TRANSFER WITH AAA-HVLP. LIMIT IS LB/GAL AS APPLIED.  
**Pollutant Notes:**

Process/Pollutant Information

**PROCESS:** SURFACE COATING, HANGLINE  
**Process Type:** 41.025 (Wood Products/Furniture Surface Coating (except 41.006))  
**Primary Fuel:**      **SCC Code:** 40201901  
**Throughput:**      **Compliance Verified:** Yes



**Process Notes:** IN ADDITION TO THE PART JJ NESHAP LIMITS ON FACILITY TOTAL V-HAP, FORMALDEHYDE RATE LIMITS EXIST FOR VENEER PRESS, VENEER SPLICE AND WOOD FINISHING.

**POLLUTANT:** FORMALDEHYDE CAS No.: 50-00-0

**Emission Limit 1:** 0.0500 WT %

**Basis:** BACT-OTHER

**Emission Limit 2:** 232.5000 LB/YR

**% Efficiency:**

**Standard Emission:**

**Control Method:** (P) NO ADHESIVES > 0.05% WT FORMALDEHYDE.

**Pollutant Notes:**

**Process/Pollutant Information**

**PROCESS:** COATINGS

**Process Type:** 41.025 (Wood Products/Furniture Surface Coating (except 41.006))

**Primary Fuel:**

**SCC Code:** 40201901

**Throughput:**

**Compliance Verified:** Yes

**Process Notes:** FACILITY LEVEL LIMIT

**POLLUTANT:** HAP CAS No.: HAP

**Emission Limit 1:** 0.8000 LB/ LB SOLIDS

**Basis:** NESHAPS

**Emission Limit 2:**

**% Efficiency:**

**Standard Emission:**

**Control Method:** (P) WEIGHTED AVERAGE OF VOLATILE HAPS IN ALL COATINGS, LIMITED AS FOLLOWS, AS APPLIED.

**Pollutant Notes:**

**Process/Pollutant Information**

**PROCESS:** SURFACE COATING, STAINS, WATER BASED

**Process Type:** 41.025 (Wood Products/Furniture Surface Coating (except 41.006))

**Primary Fuel:**

**SCC Code:** 40201901

**Throughput:**

**Compliance Verified:** Yes

**Process Notes:** ONLY WATER BASED STAINS ARE ALLOWED ON THE "HIGH VOLUME" LINE.

**POLLUTANT:** VOC      **CAS No.:** VOC  
**Emission Limit 1:** 2.8000 LB/GAL      **Basis:** BACT-PSD  
**Emission Limit 2:**      **% Efficiency:**  
**Standard Emission:**  
**Control Method:** (P) HVLP APPLICATIONS ON "HIGH VOLUME" LINE AND "LOW VOLUME" LINE. LIMIT IS LB/GAL LESS WATER.  
**Pollutant Notes:**

**Process/Pollutant Information**

**PROCESS:** SURFACE COATING, STAINS, SOLVENT BASED  
**Process Type:** 41.025 (Wood Products/Furniture Surface Coating (except 41.006))  
**Primary Fuel:**      **SCC Code:** 40201901  
**Throughput:**      **Compliance Verified:** Yes  
**Process Notes:** SOLVENT-BASED STAIN WILL ONLY BE USED IN THE "LOW VOLUME" LINE.

**POLLUTANT:** VOC      **CAS No.:** VOC  
**Emission Limit 1:** 6.9500 LB/GAL      **Basis:** BACT-PSD  
**Emission Limit 2:**      **% Efficiency:**  
**Standard Emission:**  
**Control Method:** (P) COMPANY IS COMMITTED TO PHASING OUT SOLVENT BASED STAINS. HIGH TRANSFER EFFICIENCY HVLP APPLICATORS. LIMIT IS LB/GAL LESS WATER.  
**Pollutant Notes:**

**Process/Pollutant Information**

**PROCESS:** SURFACE COATING, WASHCOATS  
**Process Type:** 41.025 (Wood Products/Furniture Surface Coating (except 41.006))  
**Primary Fuel:**      **SCC Code:** 40201901  
**Throughput:**      **Compliance Verified:** No  
**Process Notes:** ALL WASHCOATS AND TIECOATS VENT TO RTO. LOW-SOLIDS SEALCOAT; NOT TO EXCEED 5.9 LB/GAL ANY COATING. BOOTH AND OVEN EMISSIONS REDUCED BY CONTROL DEVICE.

**POLLUTANT:** VOC      **CAS No.:** VOC  
**Emission Limit 1:**                    5.9000 LB/GAL LESS H2O                    **Basis:** BACT-PSD  
**Emission Limit 2:**                    **% Efficiency:** 76.000  
**Standard Emission:**  
**Control Method:**                    (B) APPLIED BY HIGH-TRANSFER AAA-HVLP, AIR ASSISTED AIRLESS HVLP. CAPTURE 80-85%. 95% OR GREATER DESTRUCTION IN RTO REGENERATIVE THERMAL OXIDIZER.  
**Pollutant Notes:**

**Process/Pollutant Information**

**PROCESS:**                    SURFACE COATING, WIPE STAIN  
**Process Type:**                    41.025 (Wood Products/Furniture Surface Coating (except 41.006))  
**Primary Fuel:**                    **SCC Code:**                    40201901  
**Throughput:**                    **Compliance Verified:** Yes  
**Process Notes:**                    A HEAVILY PIGMENTED STAIN.

**POLLUTANT:** VOC      **CAS No.:** VOC  
**Emission Limit 1:**                    4.9000 LB/GAL                    **Basis:** BACT-PSD  
**Emission Limit 2:**                    **% Efficiency:**  
**Standard Emission:**  
**Control Method:**                    (P) WATER-BASED AUTOMATIC RECIPROCATOR SPRAY HVLP ON HIGH VOLUME LINE. MANUAL SPRAY OR AUTOMATIC RECIPROCATOR HVLP ON LOW VOLUME LINE.  
**Pollutant Notes:**

**Facility Information**

**RBLC ID:** MN-0037 (final)  
**Company Name:**  
**Plant Name:** CRYSTAL CABINET WORKS, INC.  
**EPA Region:** 5  
**County/State:** SHERBURNE / MN  
**Permit Issued By:** MINNESOTA POLL CTRL AGCY, AIR QUAL DIV (agency)  
 ROXANA DORSEY (contact) (651) 296-7554

**Date Last Updated:** 10/03/2001  
**Permit/File No.:** 14100001-001  
**Permit Date:** 09/02/1999 (actual)  
**SIC Code:** 2434  
**NAICS:**

**Plant Description:**

**Notes:** CRYSTAL MANUFACTURES KITCHEN AND BATH CABINETRY AND ARCHITECTURAL WORK. THE MANUFACTURE OF CABINETRY AND CASEWORK INVOLVES WOODWORKING (SAWING, SHAPING, MOLDING, SANDING), SPRAY FINISHING, LAMINATING AND ASSEMBLY. THE BACT LIMITS WERE ESTABLISHED FOR THE FOLLOWING TYPES OF COATING: TONERS, STAIN/GLAZER, SEALER, CLEAR VARNISH, CLEAR VARNISH, CLEAR LAQUER, PRIMERS AND ENAMEL TOPCOATS

**Process/Pollutant Information**

**PROCESS:** SURFACE COATING, SPRAY FINISHING, SEALER  
**Process Type:** 41.025 (Wood Products/Furniture Surface Coating (except 41.006))  
**Primary Fuel:** **SCC Code:** 40201901  
**Throughput:** **Compliance Verified:** Yes  
**Process Notes:** FLATLINE SPRAY FINISHING OPERATIONS

**POLLUTANT:** VOC **CAS No.:** VOC  
**Emission Limit 1:** 4.9100 LB/GAL **Basis:** BACT-PSD  
**Emission Limit 2:** **% Efficiency:**  
**Standard Emission:**  
**Control Method:** (P) 1) HIGH TRANSFER EFF. SPRAY 2) SOLVENT REPLACEMENT/COATINGS REFORMULATION. COSTS FOR #1 ALONE: CAPITAL \$50754, ANNUALIZED \$9278, COST EFF=\$150-175/T. COSTS FOR #2: CAPITAL-\$675, ANNUAL-\$10947, COST EFF.-\$1240/T.

**Pollutant Notes:**

**Process/Pollutant Information**

**PROCESS:** SURFACE COATING, SPRAY FINISHING, CLEAR VARNISH



**Process Type:** 41.025 (Wood Products/Furniture Surface Coating (except 41.006))  
**Primary Fuel:** **SCC Code:** 40201901  
**Throughput:** **Compliance Verified:** Yes  
**Process Notes:** FLATLINE SPRAY FINISHING OPERATIONS

**POLLUTANT:** VOC **CAS No.:** VOC  
**Emission Limit 1:** 4.7300 LB/GAL **Basis:** BACT-PSD  
**Emission Limit 2:** **% Efficiency:**  
**Standard Emission:**  
**Control Method:** (P) 1) HIGH TRANSFER EFF. SPRAY 2) SOLVENT REPLACEMENT/COATINGS REFORMULATION. COSTS FOR #1 ALONE: CAPITAL \$50754, ANNUALIZED \$9278, COST EFF=\$150-175/T. COSTS FOR #2: CAPITAL-\$675, ANNUAL-\$10947, COST EFF.-\$1240/T.  
**Pollutant Notes:**

**Process/Pollutant Information**

**PROCESS:** SURFACE COATING, SPRAY FINISHING, TONERS  
**Process Type:** 41.025 (Wood Products/Furniture Surface Coating (except 41.006))  
**Primary Fuel:** **SCC Code:** 40201901  
**Throughput:** **Compliance Verified:** Yes  
**Process Notes:** FLATLINE SPRAY FINISHING OPERATIONS

**POLLUTANT:** VOC **CAS No.:** VOC  
**Emission Limit 1:** 3.8600 LB/GAL **Basis:** BACT-PSD  
**Emission Limit 2:** **% Efficiency:**  
**Standard Emission:**  
**Control Method:** (P) 1) HIGH TRANSFER EFF. SPRAY 2) SOLVENT REPLACEMENT/COATINGS REFORMULATION. COSTS FOR #1 ALONE: CAPITAL \$50754, ANNUALIZED \$9278, COST EFF=\$150-175/T. COSTS FOR #2: CAPITAL-\$675, ANNUAL-\$10947, COST EFF.-\$1240/T.  
**Pollutant Notes:**

**Process/Pollutant Information**

**PROCESS:** SURFACE COATING, SPRAY FINISHING, STAINS/GLAZER  
**Process Type:** 41.025 (Wood Products/Furniture Surface Coating (except 41.006))  
**Primary Fuel:** **SCC Code:** 40201901  
**Throughput:** **Compliance Verified:** Yes  
**Process Notes:** FLATLINE SPRAY FINISHING OPERATIONS

**POLLUTANT:** VOC **CAS No.:** VOC  
**Emission Limit 1:** 6.4500 LB/GAL **Basis:** BACT-PSD  
**Emission Limit 2:** **% Efficiency:**  
**Standard Emission:**  
**Control Method:** (P) 1) HIGH TRANSFER EFF. SPRAY 2) SOLVENT REPLACEMENT/COATINGS REFORMULATION. COSTS FOR #1 ALONE: CAPITAL \$50754, ANNUALIZED \$9278, COST EFF=\$150-175/T. COSTS FOR #2: CAPITAL-\$675, ANNUAL-\$10947, COST EFF.-\$1240/T.  
**Pollutant Notes:**

Process/Pollutant Information

**PROCESS:** SURFACE COATING, SPRAY FINISHING, CLEAR LACQUER  
**Process Type:** 41.025 (Wood Products/Furniture Surface Coating (except 41.006))  
**Primary Fuel:** **SCC Code:** 40201901  
**Throughput:** **Compliance Verified:** Yes  
**Process Notes:** FLATLINE SPRAY FINISHING OPERATIONS

**POLLUTANT:** VOC **CAS No.:** VOC  
**Emission Limit 1:** 5.6000 LB/GAL **Basis:** BACT-PSD  
**Emission Limit 2:** **% Efficiency:**  
**Standard Emission:**  
**Control Method:** (P) 1) HIGH TRANSFER EFF. SPRAY 2) SOLVENT REPLACEMENT/COATINGS REFORMULATION. COSTS FOR #1 ALONE: CAPITAL \$50754, ANNUALIZED \$9278, COST EFF=\$150-175/T. COSTS FOR #2: CAPITAL-\$675, ANNUAL-\$10947, COST EFF.-\$1240/T.  
**Pollutant Notes:**

Process/Pollutant Information

**PROCESS:** SURFACE COATING, SPRAY FINISHING, PRIMERS  
**Process Type:** 41.025 (Wood Products/Furniture Surface Coating (except 41.006))  
**Primary Fuel:** **SCC Code:** 40201901  
**Throughput:** **Compliance Verified:** Yes  
**Process Notes:** FLATLINE SPRAY FINISHING OPERATIONS

**POLLUTANT:** VOC **CAS No.:** VOC  
**Emission Limit 1:** 4.6900 LB/GAL **Basis:** BACT-PSD  
**Emission Limit 2:** **% Efficiency:**  
**Standard Emission:**  
**Control Method:** (P) 1) HIGH TRANSFER EFF. SPRAY 2) SOLVENT REPLACEMENT/COATINGS REFORMULATION. COSTS FOR #1 ALONE: CAPITAL \$50754, ANNUALIZED \$9278, COST EFF=\$150-175/T. COSTS FOR #2: CAPITAL-\$675, ANNUAL-\$10947, COST EFF.-\$1240/T.  
**Pollutant Notes:**

Process/Pollutant Information

**PROCESS:** SURFACE COATING, SPRAY FINISHING, ENAMEL TOPCOAT  
**Process Type:** 41.025 (Wood Products/Furniture Surface Coating (except 41.006))  
**Primary Fuel:** **SCC Code:** 40201901  
**Throughput:** **Compliance Verified:** Yes  
**Process Notes:** FLATLINE SPRAY FINISHING OPERATIONS

**POLLUTANT:** VOC **CAS No.:** VOC  
**Emission Limit 1:** 4.8400 LB/GAL **Basis:** BACT-PSD  
**Emission Limit 2:** **% Efficiency:**  
**Standard Emission:**  
**Control Method:** (P) 1) HIGH SOLIDS CATALYZED COATINGS 2) SOLVENT REPLACEMENT/COATINGS REFORMULATION. COSTS FOR #1 ALONE: CAPITAL \$50754, ANNUALIZED \$9278, COST EFF=\$150-175/T. COSTS FOR #2: CAPITAL-\$675, ANNUAL-\$10947, COST EFF.-\$1240/T.  
**Pollutant Notes:**

**Facility Information**

<b>RBLC ID:</b>	OH-0249 (final)	<b>Date Last Updated:</b>	05/16/2003
<b>Company Name:</b>	SAUDER WOODWORKING COMPANY	<b>Permit/File No.:</b>	03-13380
<b>Plant Name:</b>	SAUDER WOODWORKING COMPANY	<b>Permit Date:</b>	08/18/1999 (actual)
<b>EPA Region:</b>	5	<b>SIC Code:</b>	2511
<b>County/State:</b>	FULTON / OH	<b>NAICS:</b>	337122
<b>Permit Issued By:</b>	OHIO ENVIRONMENTAL PROTECTION AGENCY (agency) CHERYL E. SUTTMAN (contact) 614-644-3617		
<b>Plant Description:</b>	WOOD FURNITURE AND PRODUCTS. FACILITY HAS 23 WOOD WASTE HANDLING SYSTEMS, AND INCLUDES LAMINATION PROCESSES, CUTTING, SANDING, COUNTER BANDING, EDGING, STAINING ETC.		
<b>Notes:</b>	Compliance date is for modification. Original PSD permit # 03-13201		

**Process/Pollutant Information**

<b>PROCESS:</b>	WOOD WASTE HANDLING		
<b>Process Type:</b>	30.999 (Other Wood Products Industry Sources)		
<b>Primary Fuel:</b>		<b>SCC Code:</b>	30703001
<b>Throughput:</b>	72000.00 ACFM	<b>Compliance Verified:</b>	Yes
<b>Process Notes:</b>	23 wood waste handling systems, all baghouse systems with 0.0042 gr PM/dscf and 0.0030 gr PM10/dscf. 20,280 to 72,000 acfm. Monitor pressure drop across the handling system.		

<b>POLLUTANT:</b>	PM10	<b>CAS No.:</b>	PM	
<b>Emission Limit 1:</b>		0.0030 GR/DSCF		<b>Basis:</b> BACT-PSD
<b>Emission Limit 2:</b>				<b>% Efficiency:</b> 99.000
<b>Standard Emission:</b>				
<b>Control Method:</b>	(A) BAGHOUSES			
<b>Pollutant Notes:</b>	Limit is for 14 wood waste handling systems. This permit is a modification to adjust PM10 limits. PM/hr			

limits vary depending on size of unit: 20,280 acfm to 72,000 acfm. Worst case emissions from one unit: 1.85 lbs PM10/hr and 2.59 lbs PM/hr

**POLLUTANT:** PM      **CAS No.:** PM  
**Emission Limit 1:**      0.0042 GR/DSCF      **Basis:** BACT-PSD  
**Emission Limit 2:**           **% Efficiency:** 99.000  
**Standard Emission:**  
**Control Method:**      (A) BAGHOUSES  
**Pollutant Notes:**      Limit is for 14 wood waste handling systems. This permit is a modification to adjust PM10 limits. PM/hr limits vary depending on size of unit: 20,280 acfm to 72,000 acfm. Worst case emissions from one unit: 1.85 lbs PM10/hr and 2.59 lbs PM/hr

**POLLUTANT:** OPACITY **CAS No.:** VE  
**Emission Limit 1:**      5.0000 % OPACITY as a 6 minute average      **Basis:** BACT-PSD  
**Emission Limit 2:**           **% Efficiency:** 99.000  
**Standard Emission:**      5.0000 % OPACITY  
**Control Method:**      (A) BAGHOUSES  
**Pollutant Notes:**      Limit is for 14 wood waste handling systems. This permit is a modification to adjust PM10 limits. PM/hr limits vary depending on size of unit: 20,280 acfm to 72,000 acfm. Worst case emissions from one unit: 1.85 lbs PM10/hr and 2.59 lbs PM/hr

<b>Process/Pollutant Information</b>
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**PROCESS:**      LAMINATION  
**Process Type:**      41.025 (Wood Products/Furniture Surface Coating (except 41.006))  
**Primary Fuel:**      **SCC Code:**      40202199  
**Throughput:**      **Compliance Verified:** Yes  
**Process Notes:**

**POLLUTANT:** FORMALDEHYDE **CAS No.:** 50-00-0  
**Emission Limit 1:**      0.0140 LB/H      **Basis:** SIP  
**Emission Limit 2:**           **% Efficiency:**  
**Standard Emission:**

**Control Method:** (N)  
**Pollutant Notes:** Lamination of raw fiberboard, limit is for one unit. VOC emissions from formaldehyde-based resins.

**Process/Pollutant Information**

**PROCESS:** STAIN ROLLER APPLICATION  
**Process Type:** 41.025 (Wood Products/Furniture Surface Coating (except 41.006))  
**Primary Fuel:** **SCC Code:** 40201901  
**Throughput:** **Compliance Verified:** Yes  
**Process Notes:** Modification to 453 inkers (stain applicators, fugitive to building). 30 tons VOC/yr.

**POLLUTANT:** VOC **CAS No.:** VOC  
**Emission Limit 1:** 6.8000 LB/H No PRM allowed **Basis:** SIP  
**Emission Limit 2:** **% Efficiency:**  
**Standard Emission:**  
**Control Method:** (N)  
**Pollutant Notes:** 453 inkers (roller type stain applicators), fugitive inside building. PRM - Photo Reactive Material.

**Facility Information**

<b>RBL ID:</b>	VA-0242 (final)	<b>Date Last Updated:</b>	11/20/2001
<b>Company Name:</b>		<b>Permit/File No.:</b>	30320
<b>Plant Name:</b>	STANLEY FURNITURE	<b>Permit Date:</b>	05/31/1999 (actual)
<b>EPA Region:</b>	3	<b>SIC Code:</b>	2511
<b>County/State:</b>	HENRY / VA	<b>NAICS:</b>	

**Permit Issued By:** VIRGINIA ENVIRONMENTAL QUALITY AIR DIV. (agency)  
 RAY GOETZ (contact) (540) 562-6763

**Plant Description:** WOOD HOUSEHOLD FURNITURE MANUFACTURING

**Notes:**

<b>Process/Pollutant Information</b>
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**PROCESS:** MANUFACTURING, FURNITURE, PAINT SPRAY BOOTH  
**Process Type:** 41.025 (Wood Products/Furniture Surface Coating (except 41.006))  
**Primary Fuel:** **SCC Code:** 40201901  
**Throughput:** 3.10 MMBF/YR **Compliance Verified:** No  
**Process Notes:** PAINT SPRAY BOOTHS PLANT 2 FINISHING LINE SHALL NOT EXCEED 3.1 MILLION BOARD FEET PER YEAR

**POLLUTANT:** PM **CAS No.:** PM

**Emission Limit 1:** 5.0000 T/YR **Basis:** BACT-OTHER

**Emission Limit 2:** **% Efficiency:**

**Standard Emission:**

**Control Method:** (B) HVLP AND AIR ASSISTED AIRLESS SPRAY GUNS, MACT WORK PRACTICES STANDARDS, WATER CURTAINS

**Pollutant Notes:**

**POLLUTANT:** VOC **CAS No.:** VOC

**Emission Limit 1:** 350.0000 T/YR **Basis:** BACT-PSD

**Emission Limit 2:** **% Efficiency:**

**Standard Emission:**

**Control Method:** (B) HVLP AND AIR ASSISTED AIRLESS SPRAY GUNS, MACT WORK PRACTICES STANDARDS, WATER CURTAINS

**Pollutant Notes:**

<b>Facility Information</b>
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<b>RBLC ID:</b>	WI-0110 (final)	<b>Date Last Updated:</b>	01/10/2002
<b>Company Name:</b>	BEMIS MANUFACTURING COMPANY	<b>Permit/File No.:</b>	99POY013
<b>Plant Name:</b>	BEMIS MANUFACTURING COMPANY	<b>Permit Date:</b>	05/13/1999 (actual)
<b>EPA Region:</b>	5	<b>SIC Code:</b>	2493
<b>County/State:</b>	SHEBOYGAN / WI	<b>NAICS:</b>	
<b>Permit Issued By:</b>	WISCONSIN DEPT OF NATURAL RESOURCES (agency) PAUL O. YEUNG (contact) (608) 266-0672		
<b>Plant Description:</b>	PROCESSES INCLUDE BLENDING WOOD FLOUR WITH RESIN AND MOLDING IT INTO TOILET SEATS AND CROQUET BALLS. MOLDED PRODUCTS ARE SANDED PRIOR TO THE APPLICATION OF SEALERS AND TOP COAT		
<b>Notes:</b>	START UP AND COMPLIANCE DATES ARE NOT AVAILABLE. BEMIS MANUFACTURING COMPANY OPERATES A MOLDED WOOD PRODUCTS FACILITY IN SHEBOYGAN FALLS, WI		

<b>Process/Pollutant Information</b>
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<b>PROCESS:</b>	FLOW COATING LINE, PROCESS P90 (STACKS S90 - S96)		
<b>Process Type:</b>	41.025 (Wood Products/Furniture Surface Coating (except 41.006))		
<b>Primary Fuel:</b>	NATURAL GAS	<b>SCC Code:</b>	40201901
<b>Throughput:</b>	3.00 MMBTU/H	<b>Compliance Verified:</b>	No
<b>Process Notes:</b>	MOLDED AND SANDED TOILET SEATS AND COVERS ARE HUNG ON AN AUTOMATED COATING LINE WHICH FIRST PASSES INTO THE SEALER TUNNEL. A CONTINUOUS FLOW OF SEALER IS PUMPED OVER THE PARTS AND RESIDUAL SEALER DRAINED BACK INTO THE SEALER RESERVOIR. COATED PARTS PASS THROUGH THE DIRECT FIRED GAS SEALER OVEN TO INCREASE CURE RATE AND THEN TO A COOL ROOM WHERE THEY ARE BROUGHT BACK DOWN TO ROOM TEMPERATURE. THE COOLED PARTS ARE THEN CONVEYED TO THE INTERMEDIATE AND TOP COAT LINES.		

**POLLUTANT:** PM      **CAS No.:** PM

**Emission Limit 1:**                      0.0230 LB/H

**Basis:** OTHER

**Emission Limit 2:**

**% Efficiency:**

**Standard Emission:**

**Control Method:**                      (N) REGULATORY BASIS IS STATE REGULATION.



**Pollutant Notes:**

<b>POLLUTANT:</b> SO2	<b>CAS No.:</b> 7446-09-5	
<b>Emission Limit 1:</b>	0.0018 LB/H	<b>Basis:</b> OTHER
<b>Emission Limit 2:</b>		<b>% Efficiency:</b>
<b>Standard Emission:</b>		
<b>Control Method:</b>	(N) REGULATORY BASIS IS STATE REGULATION.	
<b>Pollutant Notes:</b>		
<b>POLLUTANT:</b> NOX	<b>CAS No.:</b> 10102	
<b>Emission Limit 1:</b>	0.6300 LB/H	<b>Basis:</b> OTHER
<b>Emission Limit 2:</b>		<b>% Efficiency:</b>
<b>Standard Emission:</b>		
<b>Control Method:</b>	(N) REGULATORY BASIS IS STATE REGULATION.	
<b>Pollutant Notes:</b>		
<b>POLLUTANT:</b> CO	<b>CAS No.:</b> 630-08-0	
<b>Emission Limit 1:</b>	0.2500 LB/H	<b>Basis:</b> OTHER
<b>Emission Limit 2:</b>		<b>% Efficiency:</b>
<b>Standard Emission:</b>		
<b>Control Method:</b>	(N) REGULATORY BASIS IS STATE REGULATION.	
<b>Pollutant Notes:</b>		
<b>POLLUTANT:</b> VOC	<b>CAS No.:</b> VOC	
<b>Emission Limit 1:</b>	24.7300 LB/H	<b>Basis:</b> BACT-PSD
<b>Emission Limit 2:</b>		<b>% Efficiency:</b>
<b>Standard Emission:</b>		
<b>Control Method:</b>	(P) MATERIAL USAGE AND VOC CONTENT. VOC INPUT TO COATING LINE <0.011 LB/PIECE, BASED ON A DAILY AVERAGE.	
<b>Pollutant Notes:</b>		

<b>Facility Information</b>
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<b>RBLC ID:</b>	MS-0042 (final)	<b>Date Last Updated:</b>	11/05/2003
<b>Company Name:</b>	BATESVILLE CASKET COMPANY	<b>Permit/File No.:</b>	2100-00021
<b>Plant Name:</b>	BATESVILLE CASKET COMPANY	<b>Permit Date:</b>	03/15/1999 (actual)
<b>EPA Region:</b>	4	<b>SIC Code:</b>	3995
<b>County/State:</b>	PANOLA / MS	<b>NAICS:</b>	339995
<b>Permit Issued By:</b>	MISSISSIPPI DEPT OF ENV QUALITY (agency) CELINA M. SUMRALL (contact) (601) 961-5746		

**Plant Description:****Notes:**

THIS FACILITY MANUFACTURES WOOD BURIAL CASKETS. PRE- CONSTRUCTION, THE FACILITY HAD 2 WOODWASTE/NATURAL GAS BOILERS, A CASKET ASSEMBLY AND PREFINISH LINE, AND ONE CASKET FINISHING LINE. THEY WILL BE INSTALLING A SECOND FINISHING LINE. THE FACILITY HAS BEEN SUBJECT TO PSD REGULATIONS SINCE 1988. THE NEW (2ND) FINISH LINE WAS SUBJECT TO PSD REVIEW FOR OZONE (AS VOC) EMISSIONS.

<b>Process/Pollutant Information</b>
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<b>PROCESS:</b>	WOOD FINISHING, LINE NO. 2		
<b>Process Type:</b>	41.025 (Wood Products/Furniture Surface Coating (except 41.006))		
<b>Primary Fuel:</b>	<b>SCC Code:</b>	40200	
<b>Throughput:</b>	<b>Compliance Verified:</b> Yes		
<b>Process Notes:</b>	THE FACILITY HAS A CAP ON VOC EMISSIONS FROM THE NO.2 LINE, AND A VOC CONTENT LIMIT FOR ANY COATING/SOLVENT/GLUE USED ON THE NEW LINE. THE EXISTING AND NEW LINES OPERATE COMPLETELY INDEPENDENTLY WITH NO INTERCHANGE. COMPLIANCE WILL BE DEMONSTRATED BASED ON MASS BALANCE EQUATIONS AND BY MONITORING PRODUCTION RATES. PRODUCTION RATE WILL VARY BASED ON COATING SCENARIO. THE FACILITY MUST SUBMIT A RECORD OF ALL COATING SCENARIOS AND RELATIVE EMISSIONS RATES.		

**POLLUTANT:** VOC      **CAS No.:** VOC

**Emission Limit 1:** 46.1500 T/YR **Basis:** BACT-PSD  
**Emission Limit 2:** 4.1000 LB/GAL **% Efficiency:**  
**Standard Emission:**  
**Control Method:** (P) THE USE OF LOW VOC/HAP COATINGS, SOLVENTS, AND GLUES. IN ADDITION, NO. 2 LINES' HAPS ARE LIMITED TO 9.9 T/YR (ONE HAP) AND 24.9 T/YR (COMBINED).  
**Pollutant Notes:** ALTERNATE EMISSIONS ARE 4.1 LB/GAL VOC BY WT. LESS WATER.

<b>Facility Information</b>
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<b>RBLC ID:</b>	TN-0084 (final)	<b>Date Last Updated:</b>	12/16/2002
<b>Company Name:</b>	BRUCE HARDWOOD FLOORING L.P.	<b>Permit/File No.:</b>	949834F
<b>Plant Name:</b>	BRUCE HARDWOOD FLOORING L.P.	<b>Permit Date:</b>	07/10/1998 (actual)
<b>EPA Region:</b>	4	<b>SIC Code:</b>	2426
<b>County/State:</b>	MADISON / TN	<b>NAICS:</b>	321918, 337215, 321113, 321912
<b>Permit Issued By:</b>	TENNESSEE DIV OF AIR POLLUTION CONTROL (agency) DAVID G. CARSON (contact) (615) 532-0614		
<b>Plant Description:</b>	WOODWORKING FACILITY		
<b>Notes:</b>			

<b>Process/Pollutant Information</b>
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<b>PROCESS:</b>	BOILER, WOOD-FIRED		
<b>Process Type:</b>	13.120 (Biomass (includes wood, wood waste, bagasse, and other biomass))		
<b>Primary Fuel:</b>	WOOD	<b>SCC Code:</b>	1-02-009-03
<b>Throughput:</b>	53.50 MMBTU/H	<b>Compliance Verified:</b>	No



**Facility Information**

<b>RBLC ID:</b>	IA-0042 (final)	<b>Date Last Updated:</b>	12/18/2001
<b>Company Name:</b>	OMEGA CABINETS	<b>Permit/File No.:</b>	98-A-010 THROUGH 98-A-019
<b>Plant Name:</b>	OMEGA CABINETS	<b>Permit Date:</b>	04/10/1998 (actual)
<b>EPA Region:</b>	7	<b>SIC Code:</b>	2434
<b>County/State:</b>	BLACK HAWK / IA	<b>NAICS:</b>	
<b>Permit Issued By:</b>	IOWA DEPARTMENT OF NATURAL RESOURCES (agency) KAREN KUHN (contact) (515) 281-4306		
<b>Plant Description:</b>			
<b>Notes:</b>	FACILITY IS NOT IN COMPLIANCE FOR OZONE MONITORING.		

**Process/Pollutant Information**

<b>PROCESS:</b>	SPRAY LINE WOOD FURNITURE		
<b>Process Type:</b>	41.025 (Wood Products/Furniture Surface Coating (except 41.006))		
<b>Primary Fuel:</b>	N/A	<b>SCC Code:</b>	2434
<b>Throughput:</b>	0	<b>Compliance Verified:</b>	No
<b>Process Notes:</b>	LIMITED TO 215 TPY VOC, ENTIRE LINE		
<b>POLLUTANT:</b>	VOC	<b>CAS No.:</b>	VOC
<b>Emission Limit 1:</b>	215.0000 T/Y	<b>Basis:</b>	BACT
<b>Emission Limit 2:</b>	0	<b>% Efficiency:</b>	0
<b>Standard Emission:</b>	0		
<b>Control Method:</b>	(P) HIGH TRANSFER EFFICIENCY		
<b>Pollutant Notes:</b>			

<b>Facility Information</b>
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<b>RBLC ID:</b>	NC-0100 (final)	<b>Date Last Updated:</b>	04/02/2004
<b>Company Name:</b>	STEELCASE, INC.	<b>Permit/File No.:</b>	1968R20
<b>Plant Name:</b>	STEELCASE, INC.	<b>Permit Date:</b>	03/03/1998 (actual)
<b>EPA Region:</b>	4	<b>SIC Code:</b>	2521
<b>County/State:</b>	HENDERSON / NC	<b>NAICS:</b>	337211
<b>Permit Issued By:</b>	NORTH CAROLINA DIV OF ENV MGMT (agency) BRUCE INGLE (contact) (919) 715-6241		
<b>Plant Description:</b>	WOOD OFFICE FURNITURE MANUFACTURING		
<b>Notes:</b>	Modification to expand the furniture manufacturing facility		

<b>Process/Pollutant Information</b>
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<b>PROCESS:</b>	SURFACE COATING, FURNITURE FINISHING		
<b>Process Type:</b>	41.025 (Wood Products/Furniture Surface Coating (except 41.006))		
<b>Primary Fuel:</b>	<b>SCC Code:</b>	40201901	
<b>Throughput:</b>	<b>Compliance Verified:</b> No		
<b>Process Notes:</b>	Furniture finishing system utilizing non-photochemically reative or exempt solvents. System includes spraybooths, drying ovens, rollcoaters, electrodeposition painting systems, and finish repair for wood and metal furniture components.		

<b>POLLUTANT:</b> VOC	<b>CAS No.:</b> VOC	
<b>Emission Limit 1:</b>	913.0000 T/YR	<b>Basis:</b> BACT-PSD
<b>Emission Limit 2:</b>		<b>% Efficiency:</b>
<b>Standard Emission:</b>		
<b>Control Method:</b>	(B) NON-PHOTOCHEMICALLY REACTIVE OR EXEMPT SOLVENTS, DRY FILTERS	
<b>Pollutant Notes:</b>		

**Facility Information**

<b>RBLC ID:</b>	CA-0772 (final)	<b>Date Last Updated:</b>	12/18/2001
<b>Company Name:</b>	ENVIROPLEX	<b>Permit/File No.:</b>	N-3780-2-0
<b>Plant Name:</b>	ENVIROPLEX	<b>Permit Date:</b>	03/20/1997 (actual)
<b>EPA Region:</b>	9	<b>SIC Code:</b>	2451
<b>County/State:</b>	SAN JOAQUIN / CA	<b>NAICS:</b>	
<b>Permit Issued By:</b>	SJVUAPCD - CENTRAL REGIONAL OFFICE, CA (agency) SEYED SADREDIN (contact) (209) 468-3474		

**Plant Description:**

**Notes:**

**Process/Pollutant Information**

<b>PROCESS:</b>	EXTERIOR COATING OF WOODEN WALL PANELS		
<b>Process Type:</b>	41.006 (Flatwood Paneling Surface Coating)		
<b>Primary Fuel:</b>		<b>SCC Code:</b>	4-02-021-99
<b>Throughput:</b>	0	<b>Compliance Verified:</b>	No
<b>Process Notes:</b>	ARB RECORD # A340-789-97		

<b>POLLUTANT:</b>	PM10	<b>CAS No.:</b>	PM	
<b>Emission Limit 1:</b>	40.1000	<b>Basis:</b>	LAER	
<b>Emission Limit 2:</b>	0	<b>% Efficiency:</b>	0	
<b>Standard Emission:</b>	0			
<b>Control Method:</b>	(P) USE OF AN HVLP OR EQUIVALENT APPLICATION EQUIPMENT			
<b>Pollutant Notes:</b>				

<b>POLLUTANT:</b>	VOC	<b>CAS No.:</b>	VOC	
<b>Emission Limit 1:</b>	18.8000	<b>Basis:</b>	LAER	

**Emission Limit 2:** 0 **% Efficiency:** 0  
**Standard Emission:** 0  
**Control Method:** (P) HVLP APPLICATION EQUIPMENT, WATER BASED PIGMENTED TOPCOATS WITH A VOC CONTENT OF 1.1 LB/GAL (LESS WATER AND EXEMPT COMPOUNDS) OR LESS  
**Pollutant Notes:**

<b>Process/Pollutant Information</b>
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**PROCESS:** METAL FRAMES, EXTERIOR COATING OF WOODEN PANELS  
**Process Type:** 41.025 (Wood Products/Furniture Surface Coating (except 41.006))  
**Primary Fuel:** **SCC Code:** 4-02-021-99  
**Throughput:** 0 **Compliance Verified:** No  
**Process Notes:** ARB RECORD # A340-798 AND A340-812-97 SIC CODE N-3780-1 AND N-3780-2 RESPECTIVELY

**POLLUTANT:** PM10 **CAS No.:** PM  
**Emission Limit 1:** 29.4000 LB/DAY **Basis:** LAER  
**Emission Limit 2:** 0 **% Efficiency:** 0  
**Standard Emission:** 0  
**Control Method:** (P) USE OF HVLP OR DISTRICT RULE 4603/4606 COMPLIANT COATING APPLICATION METHODS  
**Pollutant Notes:**

**POLLUTANT:** VOC **CAS No.:** VOC  
**Emission Limit 1:** 25.0000 LB/DAY **Basis:** LAER  
**Emission Limit 2:** 0 **% Efficiency:** 0  
**Standard Emission:** 0  
**Control Method:** (P) PRIMERS, VOC CONTENT 1.8 LB/GAL, METAL FRAMES COATING AND PIGMENTED TOPCOATS, VOC CONTENT 1.1 LB/GAL  
**Pollutant Notes:**

**POLLUTANT:** PM10 **CAS No.:** PM  
**Emission Limit 1:** 40.1000 LB/DAY **Basis:** LAER  
**Emission Limit 2:** 0



% Efficiency: 0

**Standard Emission:** 0  
**Control Method:** (P) USE OF HVLP OR DISTRICT RULE 4603/4606 COMPLIANT COATING APPLICATION METHODS

**Pollutant Notes:**

**POLLUTANT:** VOC      **CAS No.:** VOC  
**Emission Limit 1:** 18.8000 LB/DAY      **Basis:** LAER  
**Emission Limit 2:** 0      **% Efficiency:** 0  
**Standard Emission:** 0  
**Control Method:** (P) PRIMERS, VOC CONTENT 1.8 LB/GAL. METAL FRAMES COATING AND PIGMENTED TOPCOATS, VOC CONTENT 1.1 LB/GAL

**Pollutant Notes:**

<b>Facility Information</b>
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<b>RBLC ID:</b>	CA-0769 (final)	<b>Date Last Updated:</b>	12/18/2001
<b>Company Name:</b>	GUY CHADDOCK & COMPANY	<b>Permit/File No.:</b>	S-3006-1-1, 2-1, 3-1 & 4-1
<b>Plant Name:</b>	GUY CHADDOCK & COMPANY	<b>Permit Date:</b>	03/07/1997 (actual)
<b>EPA Region:</b>	9	<b>SIC Code:</b>	2511
<b>County/State:</b>	KERN / CA	<b>NAICS:</b>	
<b>Permit Issued By:</b>	SJVUAPCD - CENTRAL REGIONAL OFFICE, CA (agency) SEYED SADREDIN (contact) (209) 468-3474		

**Plant Description:**

**Notes:**

**Process/Pollutant Information**

**PROCESS:** COATING APPLICATION EQUIPMENT  
**Process Type:** 41.025 (Wood Products/Furniture Surface Coating (except 41.006))  
**Primary Fuel:** **SCC Code:** 4-02-019-01  
**Throughput:** 0 **Compliance Verified:** No  
**Process Notes:** ARB RECORD # A340-786-97

**POLLUTANT: PM10 CAS No.: PM**  
**Emission Limit 1:** 26.3000 LB/DAY **Basis: LAER**  
**Emission Limit 2:** 0 **% Efficiency: 0**  
**Standard Emission:** 0  
**Control Method:** (P) HVLP SPRAY GUNS, 2 BINKS AND 2 VIKING FLOOR TYPE, OPEN FACE SPRAY BOOTHS  
**Pollutant Notes:**

**POLLUTANT: VOC CAS No.: VOC**  
**Emission Limit 1:** 250.0000 LB/DAY **Basis: LAER**  
**Emission Limit 2:** 10.0000 TON/YR **% Efficiency: 0**  
**Standard Emission:** 0  
**Control Method:** (P) HVLP SPRAY EQUIPMENT  
**Pollutant Notes:**

**Facility Information**

**RBL ID:** CA-0873 (final)  
**Company Name:** SANDBERG FURNITURE MFG. CO. INC.  
**Plant Name:** SANDBERG FURNITURE MFG. CO. INC.  
**EPA Region:** 9  
**County/State:** LOS ANGELES / CA  
**Permit Issued By:** CALIFORNIA AIR RESOURCES BOARD (agency)  
 STACEY EBINER (contact) (909)396-2504

**Date Last Updated:** 10/03/2001  
**Permit/File No.:** 323199  
**Permit Date:** 02/21/1997 (actual)  
**SIC Code:** 2511  
**NAICS:**

**Plant Description:**

**Notes:** WOOD FURNITURE AND PLASTIC FOAM ARE COATED WITH UV SEALERS/TOPCOATS USING ROLLER COATERS AND SPRAY GUNS. SYSTEM ALSO INCLUDES TWO TOUCH-UP SPRAY BOOTHS BUT IS NO LONGER IN USE AS OF 5/7/99. NO AUTHORITY TO CONSTRUCT PERMIT WAS ISSUED. COMPLIANCE: ACCORDING TO OUR COMPUTER SYSTEM, SINCE JUNE 1996, SANBERG FURNITURE RECEIVED A NOTICE OF VIOLATION ON 10/16/97 FOR DISTRICT RULES 1136 AND 203, AND A NOTICE TO COMPLY ON 1/28/98 FOR STATE H & S CODE 42303 AND DISTRICT RULE 203.

<b>Process/Pollutant Information</b>
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**PROCESS:** COATING AND DRYING SYSTEM  
**Process Type:** 41.025 (Wood Products/Furniture Surface Coating (except 41.006))  
**Primary Fuel:** NATURAL GAS **SCC Code:** 40201901  
**Throughput:** 5.00 HP BLOWER **Compliance Verified:** No  
**Process Notes:** ARB RECORD # A340-889-99 COATING AND DRYING SYSTEM CONSISTING OF A MID STATE INDUSTRIAL, INC., AUTOMATIC SPRAY BOOTH WITH AN ULTRAVIOLET CURE SECTION AND A NATURAL GAS-FIRED OVEN VENTED BY A 5 HP BLOWER

**POLLUTANT:** VOC **CAS No.:** VOC

**Emission Limit 1:** 1689.0000 LB/D **Basis:** BACT-PSD  
**Emission Limit 2:** **% Efficiency:**

**Standard Emission:**

**Control Method:** (P) A SUPER CLEAN MATERIAL CONTAINING NO MORE THAN 5% BY WEIGHT VOC IS USED AS SEALERS AND TOPCOATS. EMISSION LIMIT IS FACILITY TOTAL.

**Pollutant Notes:**

**Facility Information**

<b>RBLC ID:</b>	CA-0815 (final)	<b>Date Last Updated:</b>	12/18/2001
<b>Company Name:</b>	SANDBERG FURNITURE CO. INC.	<b>Permit/File No.:</b>	F5476 A/N323199
<b>Plant Name:</b>	SANDBERG FURNITURE CO. INC.	<b>Permit Date:</b>	02/20/1997 (actual)
<b>EPA Region:</b>	9	<b>SIC Code:</b>	2511
<b>County/State:</b>	/ CA	<b>NAICS:</b>	
<b>Permit Issued By:</b>	SOUTH COAST AQMD, CA (agency) ROBERT PEASE (contact) (818) 572-6174		

**Plant Description:**

**Notes:** ROLLERCOATER, HYMMEN COMBICOATER UV CURE SECTION ROLLERCOATER, HYMMEN DIRECT COATER AUTOMATIC SPRAY BOOTH, MID-STATE INDUSTRIAL TOUCH-UP SPRAY BOOTHS, 2, MID-STATE INDUSTRIAL OVEN, MID-STATE INDUSTRIAL UV CURE SECTION, MID-STATE INDUSTRIAL WOOD FURNITURE, ROLL COATED WITH UV SEALERS, ROLL COATED WITH TOPCOATS OR S PRAYED WITH TOPCOATS TO CONTROL THICKNESS.

**Process/Pollutant Information**

<b>PROCESS:</b>	COATING WOOD FURNITURE		
<b>Process Type:</b>	41.025 (Wood Products/Furniture Surface Coating (except 41.006))		
<b>Primary Fuel:</b>		<b>SCC Code:</b>	40201901
<b>Throughput:</b>	0	<b>Compliance Verified:</b>	No

**Process Notes:**

<b>POLLUTANT:</b>	VOC	<b>CAS No.:</b>	VOC	
<b>Emission Limit 1:</b>	0.0164 LB/D	<b>Basis:</b>	LAER	
<b>Emission Limit 2:</b>	0	<b>% Efficiency:</b>	0	
<b>Standard Emission:</b>	0			
<b>Control Method:</b>	(A) ROLLERCOATERS AND UV CURE SECTION INSTALLED AHEAD OF SPRAY BOOTH			
<b>Pollutant Notes:</b>				

**Facility Information**

<b>RBL ID:</b>	CA-0804 (final)	<b>Date Last Updated:</b>	12/18/2001
<b>Company Name:</b>	AMERICAN DOOR MANUFACTURING	<b>Permit/File No.:</b>	N-1084-2-1
<b>Plant Name:</b>	AMERICAN DOOR MANUFACTURING	<b>Permit Date:</b>	11/21/1996 (actual)
<b>EPA Region:</b>	9	<b>SIC Code:</b>	249
<b>County/State:</b>	SAN JOAQUIN / CA	<b>NAICS:</b>	
<b>Permit Issued By:</b>	SJVUAPCD - CENTRAL REGIONAL OFFICE, CA (agency) SEYED SADREDIN (contact) (209) 468-3474		
<b>Plant Description:</b>			
<b>Notes:</b>			

**Process/Pollutant Information**

<b>PROCESS:</b>	WOOD PRODUCTS COATING OPERATION		
<b>Process Type:</b>	41.025 (Wood Products/Furniture Surface Coating (except 41.006))		
<b>Primary Fuel:</b>		<b>SCC Code:</b>	4-02-019-01
<b>Throughput:</b>	0	<b>Compliance Verified:</b>	No
<b>Process Notes:</b>	ARB RECORD # A340-777-97		

<b>POLLUTANT:</b>	VOC	<b>CAS No.:</b>	VOC	
<b>Emission Limit 1:</b>	21.7000 LB/DAY	<b>Basis:</b>	LAER	
<b>Emission Limit 2:</b>	15.4000 LB/DAY	<b>% Efficiency:</b>	0	
<b>Standard Emission:</b>	0			
<b>Control Method:</b>	(P) HVLP OR EQUIVALENT APPLICATION EQUIPMENT AND COATINGS WITH A VOC CONTENT 0.68 LB/GAL FOR WATER BASED PIGMENTED PRIMERS & 1.62 LB/GAL FOR			

TOPCOATS

Pollutant Notes:

**POLLUTANT:** PM10      **CAS No.:** PM  
**Emission Limit 1:**      5.9000 LB/DAY      **Basis:** LAER  
**Emission Limit 2:**      0      **% Efficiency:** 0  
**Standard Emission:**      0  
**Control Method:**      (P) ENCLOSED SPRAY BOOTH WITH EXHAUST FILTERS AND HVLPOR EQUIVALENT APPLICATION EQUIPMENT

Pollutant Notes:

<b>Process/Pollutant Information</b>
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**PROCESS:**      WOOD PRODUCTS COATING OPERATION  
**Process Type:**      41.025 (Wood Products/Furniture Surface Coating (except 41.006))  
**Primary Fuel:**      **SCC Code:**      4-02-019-01  
**Throughput:**      0      **Compliance Verified:** No  
**Process Notes:**      ARB RECORD # A340-811-97 SIC CODE: N-1084-3-1

**POLLUTANT:** VOC      **CAS No.:** VOC  
**Emission Limit 1:**      15.4000 LB/DAY      **Basis:** LAER  
**Emission Limit 2:**      0      **% Efficiency:** 0  
**Standard Emission:**      0  
**Control Method:**      (P) HVLP OR EQUIVALENT APPLICATION AND COATING WITH A VOC CONTENT 0.68 LB/GAL-WATER BASED PRIMERS AND 1.62 LB.GAL-WATER BASED TOPCOATS

Pollutant Notes:

**Facility Information**

<b>RBL ID:</b>	CA-0726 (final)	<b>Date Last Updated:</b>	12/18/2001
<b>Company Name:</b>	CREATIONS IN WOOD, INC.	<b>Permit/File No.:</b>	C-1686-6-0
<b>Plant Name:</b>	CREATIONS IN WOOD, INC.	<b>Permit Date:</b>	09/12/1996 (actual)
<b>EPA Region:</b>	9	<b>SIC Code:</b>	2511
<b>County/State:</b>	FRESNO / CA	<b>NAICS:</b>	
<b>Permit Issued By:</b>	SJVUAPCD - CENTRAL REGIONAL OFFICE, CA (agency) SEYED SADREDIN (contact) (209) 468-3474		
<b>Plant Description:</b>			
<b>Notes:</b>	CAPCOA BACT CLEARINGHOUSE NO. A340-734-97		

**Process/Pollutant Information**

<b>PROCESS:</b>	WOODEN CABINET AND FURNITURE COATING BOOTH		
<b>Process Type:</b>	41.025 (Wood Products/Furniture Surface Coating (except 41.006))		
<b>Primary Fuel:</b>		<b>SCC Code:</b>	4-02-019-01
<b>Throughput:</b>	3.00 HP	<b>Compliance Verified:</b>	No
<b>Process Notes:</b>			

<b>POLLUTANT:</b>	VOC	<b>CAS No.:</b>	VOC	
<b>Emission Limit 1:</b>	12.5000 LB/DAY	<b>Basis:</b>	LAER	
<b>Emission Limit 2:</b>	0	<b>% Efficiency:</b>	0	
<b>Standard Emission:</b>	0			
<b>Control Method:</b>	(B) COATINGS WITH VOC CONTENT OF 4.6 LB/GAL FOR CLEAR TOPCOATS, 3.2 LB/GAL FOR HIGH-SOLID COATINGS, 4.6 LB/GAL FOR SANDING SEALERS. HVLP SPRAY EQUIPMENT.			
<b>Pollutant Notes:</b>				

**Facility Information**

<b>RBLC ID:</b>	VA-0237 (final)	<b>Date Last Updated:</b>	12/18/2001
<b>Company Name:</b>	VAUGHAN FURNITURE COMPANY	<b>Permit/File No.:</b>	30973
<b>Plant Name:</b>	VAUGHAN FURNITURE COMPANY	<b>Permit Date:</b>	08/28/1996 (actual)
<b>EPA Region:</b>	3	<b>SIC Code:</b>	2511
<b>County/State:</b>	PATRICK / VA	<b>NAICS:</b>	337215, 337122
<b>Permit Issued By:</b>	VIRGINIA ENVIRONMENTAL QUALITY AIR DIV. (agency) ALLEN ARMISTEAD (contact) (804) 582-5120		
<b>Plant Description:</b>			
<b>Notes:</b>	PERMIT TO CONSTRUCT AND OPERATE A FURNITURE MANUFACTURING FACILITY TO INCLUDE A WOOD/COAL-FIRED BOILER, ASSORTED WOODWORKING EQUIPMENT, WOOD DRYING, WOOD GLUING, WOOD FINISHING OPERATION AND AN EMERGENCY FIRE PUMP (INTERNAL COMBUSTION ENGINE).		

**Process/Pollutant Information**

<b>PROCESS:</b>	WOOD/COAL-FIRED BOILER		
<b>Process Type:</b>	13.190 (Other Solid Fuel & Solid Fuel Mixtures)		
<b>Primary Fuel:</b>	WOOD AND COAL	<b>SCC Code:</b>	1-02-009-03
<b>Throughput:</b>	28000000.00 BTU/HR	<b>Compliance Verified:</b>	No
<b>Process Notes:</b>	*THROUGHPUT INFO: 3504 TPY FOR COAL, 15,330 TPY FOR WOOD & 28000000 BTUS/HR EXCLUDES ANY WOOD WHICH CONTAINS CHEMICAL TREATMENTS OR HAS AFFIXED PAINT AND/OR FINISHING MATERIALS OR PAPER OR PLASTIC LAMINATES.		

<b>POLLUTANT:</b>	AS	<b>CAS No.:</b>	7440-38-2	
<b>Emission Limit 1:</b>	0.0500 TPY	<b>Basis:</b>	BACT	
<b>Emission Limit 2:</b>	0	<b>% Efficiency:</b>	0	
<b>Standard Emission:</b>	0			
<b>Control Method:</b>	(N)			
<b>Pollutant Notes:</b>				



**POLLUTANT:** SO2      **CAS No.:** 7446-09-5  
**Emission Limit 1:**      66.5999 TPY      **Basis:** BACT  
**Emission Limit 2:**      0      **% Efficiency:** 0  
**Standard Emission:**      0  
**Control Method:**      (P) FUEL SPEC: 0.75% SULFUR COAL AND THROUGHPUT LIMIT  
**Pollutant Notes:**

**POLLUTANT:** NO2      **CAS No.:** 10102-44-0  
**Emission Limit 1:**      24.0000 TPY      **Basis:** BACT  
**Emission Limit 2:**      0      **% Efficiency:** 0  
**Standard Emission:**      0  
**Control Method:**      (N)  
**Pollutant Notes:**

**POLLUTANT:** CO      **CAS No.:** 630-08-0  
**Emission Limit 1:**      104.2000 TPY      **Basis:** BACT  
**Emission Limit 2:**      0      **% Efficiency:** 0  
**Standard Emission:**      0  
**Control Method:**      (N)  
**Pollutant Notes:**

**POLLUTANT:** VOC      **CAS No.:** VOC  
**Emission Limit 1:**      1.7000 TPY      **Basis:** BACT  
**Emission Limit 2:**      0      **% Efficiency:** 0  
**Standard Emission:**      0  
**Control Method:**      (N)  
**Pollutant Notes:**

**POLLUTANT:** FORMALDEHYDE **CAS No.:** 50-00-0  
**Emission Limit 1:**      0.0900 TPY      **Basis:** BACT  
**Emission Limit 2:**      0

% Efficiency: 0

Standard Emission: 0  
 Control Method: (N)  
 Pollutant Notes:

**POLLUTANT: BE** CAS No.: 7440-41-7  
 Emission Limit 1: 0.0040 TPY  
 Emission Limit 2: 0  
 Standard Emission: 0  
 Control Method: (N)  
 Pollutant Notes:

Basis: BACT  
 % Efficiency: 0

**POLLUTANT: CR** CAS No.: 7440-47-3  
 Emission Limit 1: 0.0800 TPY  
 Emission Limit 2: 0  
 Standard Emission: 0  
 Control Method: (N)  
 Pollutant Notes:

Basis: BACT  
 % Efficiency: 0

**POLLUTANT: TSP** CAS No.: PM  
 Emission Limit 1: 36.8000 TPY  
 Emission Limit 2: 0  
 Standard Emission: 0  
 Control Method: (A) MULTICYLCONES, EQUIPPED WITH A DEVICE TO CONTINUOUSLY MEASURE DIFFERENTIAL PRESSURE DROP  
 Pollutant Notes:

Basis: BACT  
 % Efficiency: 90.000

**POLLUTANT: PM10** CAS No.: PM  
 Emission Limit 1: 36.8000 TPY  
 Emission Limit 2: 0  
 Standard Emission: 0

Basis: BACT  
 % Efficiency: 90.000

**Control Method:** (A) MULTICYLCONES, EQUIPPED WITH A DEVICE TO CONTINUOUSLY MEASURE DIFFERENTIAL PRESSURE DROP

**Pollutant Notes:**

Process/Pollutant Information

**PROCESS:** MISCELLANEOUS WOODWORKING EQUIPMENT

**Process Type:** 30.007 (Woodworking)

**Primary Fuel:**

**SCC Code:** 3-07-020-99

**Throughput:** 7000000.00 BOARD FT/YEAR

**Compliance Verified:** No

**Process Notes:**

**POLLUTANT:** PM10 **CAS No.:** PM

**Emission Limit 1:** 23.3000 TPY

**Basis:** BACT

**Emission Limit 2:** 0

**% Efficiency:** 99.900

**Standard Emission:** 0

**Control Method:** (A) FABRIC FILTER

**Pollutant Notes:**

**POLLUTANT:** TSP **CAS No.:** PM

**Emission Limit 1:** 23.3000 TPY

**Basis:** BACT

**Emission Limit 2:** 0

**% Efficiency:** 99.900

**Standard Emission:** 0

**Control Method:** (A) FABRIC FILTER

**Pollutant Notes:**

Process/Pollutant Information

**PROCESS:** 15 SPRAY BOOTHS

**Process Type:** 41.025 (Wood Products/Furniture Surface Coating (except 41.006))

**Primary Fuel:**

**SCC Code:** 4-02-019-01

**Throughput:** 86.00 GAL/HR

**Compliance Verified:** No

**Process Notes:**

**POLLUTANT:** TSP      **CAS No.:** PM  
**Emission Limit 1:**      55.6000 TPY      **Basis:** BACT  
**Emission Limit 2:**      0      **% Efficiency:** 85.000  
**Standard Emission:**      0  
**Control Method:**      (A) FIBERGLASS FILTERS OR EQUIVALENT  
**Pollutant Notes:**

**POLLUTANT:** PM10      **CAS No.:** PM  
**Emission Limit 1:**      55.6000 TPY      **Basis:** BACT  
**Emission Limit 2:**      0      **% Efficiency:** 85.000  
**Standard Emission:**      0  
**Control Method:**      (A) FIBERGLASS FILTERS OR EQUIVALENT  
**Pollutant Notes:**

**POLLUTANT:** VOC      **CAS No.:** VOC  
**Emission Limit 1:**      232.0000 TPY      **Basis:** MACT  
**Emission Limit 2:**      0      **% Efficiency:** 0  
**Standard Emission:**      0  
**Control Method:**      (P) MINIMIZED BY AIRLESS SPRAY NOZZLES  
**Pollutant Notes:**

<b>Process/Pollutant Information</b>
--------------------------------------

**PROCESS:**      GLUING EQUIPMENT  
**Process Type:**      41.025 (Wood Products/Furniture Surface Coating (except 41.006))  
**Primary Fuel:**      **SCC Code:**      4-02-019-99  
**Throughput:**      13.00 GAL/HR      **Compliance Verified:** No  
**Process Notes:**

**POLLUTANT:** VOC      **CAS No.:** VOC

**Emission Limit 1:** 3.3000 TPY **Basis:** BACT  
**Emission Limit 2:** 0 **% Efficiency:** 0  
**Standard Emission:** 0  
**Control Method:** (P) USE OF LOW VOC OR WATER BASE ADHESIVES  
**Pollutant Notes:**

**POLLUTANT: FORMALDEHYDE CAS No.: 50-00-0**

**Emission Limit 1:** 0.2400 TPY **Basis:** BACT  
**Emission Limit 2:** 0 **% Efficiency:** 0  
**Standard Emission:** 0  
**Control Method:** (P) LOW FORMALDEHYDE ADHESIVE  
**Pollutant Notes:**

Process/Pollutant Information
-------------------------------

**PROCESS:** KILN EQUIPMENT (WOOD DRYING KILNS)  
**Process Type:** 30.999 (Other Wood Products Industry Sources)  
**Primary Fuel:** **SCC Code:** 3-07-020-99  
**Throughput:** 11440000.00 BOARD FT/YEAR **Compliance Verified:** No  
**Process Notes:** 11440000 BOARD FT/YEAR OF HARDWOOD

**POLLUTANT: VOC CAS No.: VOC**

**Emission Limit 1:** 1.2000 TPY **Basis:** BACT  
**Emission Limit 2:** 0 **% Efficiency:** 0  
**Standard Emission:** 0  
**Control Method:** (N) NONE  
**Pollutant Notes:**

Process/Pollutant Information
-------------------------------

**PROCESS:** DIESEL FIRE PUMP (INTERNAL COMBUSTION ENGINE)  
**Process Type:** 17.210 (Fuel Oil)

**Primary Fuel:** SCC Code: 2-02-001-02  
**Throughput:** 231.00 HP **Compliance Verified:** No  
**Process Notes:** USED ONLY FOR EMERGENCY FIRE SUPPRESSION AT THE FACILITY.

**POLLUTANT:** NOX **CAS No.:** 10102  
**Emission Limit 1:** 1.1000 TPY **Basis:** BACT  
**Emission Limit 2:** 0 **% Efficiency:** 0  
**Standard Emission:** 0  
**Control Method:** (P) 300 HOURS/YEAR LIMIT  
**Pollutant Notes:**

<b>Facility Information</b>
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<b>RBLC ID:</b>	AL-0083 (final)	<b>Date Last Updated:</b>	09/10/2002
<b>Company Name:</b>	WELLBORN CABINET, INC.	<b>Permit/File No.:</b>	304-5008-X002, 0004, 0006-0015
<b>Plant Name:</b>	WELLBORN CABINET, INC.	<b>Permit Date:</b>	09/08/1995 (actual)
<b>EPA Region:</b>	4	<b>SIC Code:</b>	
<b>County/State:</b>	CLAY / AL	<b>NAICS:</b>	
<b>Permit Issued By:</b>	ALABAMA DEPT OF ENVIRONMENTAL MGMT (agency) KEVIN FULMER (contact) (334) 271-7861		

**Plant Description:**

**Notes:** 797 TPY BUBBLE FOR VOC FOR ENTIRE FACILITY, ROLLING 12 MONTH TOTAL. STAINS APPLIED HVLP OR EQUIVALENT 65% TRANSFER EFFICIENCY (TE). AIR PRESSURE SHALL NOT EXCEED 10 PSIG AT APPLICATION. SEALERS AND TOPCOATS APPLIED WITH AIR ASSISTED AIRLESS OR EQUIVALENT 65% TE UNIT SUBJECT TO NESHAP, WELLBORN WILL COMPLY WITH "NEW SOURCE" REQUIREMENTS UPON PERMIT ISSUANCE. MUST PRACTICE GOOD HOUSEKEEPING PRACTICES. WELLBORN TO UTILIZE NEW COATING TECHNOLOGY WHEN IT BECOMES ECONOMICALLY &

TECHNICALLY FEASIBLE. ALL FLAT SHEET STOCK TO USE UV COATING PROCESS.

<b>Process/Pollutant Information</b>
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**PROCESS:** WOOD CABINET MANUFACTURING  
**Process Type:** 41.025 (Wood Products/Furniture Surface Coating (except 41.006))  
**Primary Fuel:** **SCC Code:** 4-02-019-01  
**Throughput:** 0 **Compliance Verified:** No  
**Process Notes:** VOC COATING LIMITS (1 MO AVG) IN LB VOC/GAL COATING: STAINS & TONERS: 7.2 MAX, 6.8 AVG; SEALERS 7.2 MAX, 5.7 AVG.; TOPCOATS 7.2 MAX, 5.0 AVG.

**POLLUTANT:** VOC **CAS No.:** VOC  
**Emission Limit 1:** 797.0000 T/YR BUBBLE FAC-WIDE **Basis:** BACT-PSD  
**Emission Limit 2:** 0 **% Efficiency:** 0  
**Standard Emission:** 0  
**Control Method:** (P) HVLP AND AIR ASSISTED AIRLESS APPLICATION (SEE NOTES)  
**Pollutant Notes:**

**POLLUTANT:** PM **CAS No.:** PM  
**Emission Limit 1:** 25.0000 T/YR **Basis:** BACT-PSD  
**Emission Limit 2:** **% Efficiency:**  
**Standard Emission:**  
**Control Method:** (A) ESP OR BAGHOUSE TO BECOME SYNTHETIC MINOR. ESP AND/OR BAGHOUSE ON WOOD WASTE BOILERS AND WOOD HANDLING SYSTEM  
**Pollutant Notes:**

**POLLUTANT:** PM10 **CAS No.:** PM  
**Emission Limit 1:** 15.0000 T/YR **Basis:** BACT-PSD  
**Emission Limit 2:** **% Efficiency:**  
**Standard Emission:**  
**Control Method:** (A) ESP OR BAGHOUSE TO BECOME SYNTHETIC MINOR. ESP AND/OR BAGHOUSE ON WOOD WASTE BOILERS AND WOOD HANDLING SYSTEM  
**Pollutant Notes:**

<b>Facility Information</b>
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<b>RBLC ID:</b>	CA-0634 (final)	<b>Date Last Updated:</b>	12/18/2001
<b>Company Name:</b>	CUSTOM WOODCRAFT	<b>Permit/File No.:</b>	P/O NO. C-1283-A-1
<b>Plant Name:</b>	CUSTOM WOODCRAFT	<b>Permit Date:</b>	12/13/1994 (actual)
<b>EPA Region:</b>	9	<b>SIC Code:</b>	2499
<b>County/State:</b>	/ CA	<b>NAICS:</b>	
<b>Permit Issued By:</b>	SAN LUIS OBISPO COUNTY APCD, CA (agency) DEAN CARLSON (contact) (805) 781-5912		

**Plant Description:**

**Notes:** DISCOVERED SOURCE. NO AUTHORITY TO CONSTRUCT WAS ISSUED. PERMIT TO OPERATE WAS ISSUED ON 12-13-94. BUSINESS VOLUME FLUCTUATES SO EMISSIONS VARY. BUT THIS CHANGE HAS REDUCED EMISSIONS AT LEAST 90%. PERMITTEE USES COATINGS THAT HAVE VOC CONTENT LOWER THAN LIMITS LISTED ABOVE. BOOTH HEATERS ARE RARELY USED.

<b>Process/Pollutant Information</b>
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<b>PROCESS:</b>	WOOD COATING OPERATION IN TWO DOWNDRAFT BOOTHS		
<b>Process Type:</b>	41.025 (Wood Products/Furniture Surface Coating (except 41.006))		
<b>Primary Fuel:</b>	NATURAL GAS	<b>SCC Code:</b>	4-02-019-01
<b>Throughput:</b>	1.20 BTU/HR FOR HEATER	<b>Compliance Verified:</b>	No
<b>Process Notes:</b>	COMPLIANCE TO BE VERIFIED WITH INSPECTION		

**POLLUTANT:** VOC      **CAS No.:** VOC

**Emission Limit 1:**                      0 SEE CNTRL DESC

**Basis:** BACT-OTHER



**Emission Limit 2:** 0 **% Efficiency:** 0  
**Standard Emission:** 0  
**Control Method:** (P) LOW VOC WATERBORNE WOOD COATINGS, CLEAR TOPCOATS LIMITED TO 275 G/L LESS WATER AND EXEMPT CPDS. STAINS,SEALERS, PIGMTED COATINGS LIMITED TO 240G/L  
**Pollutant Notes:**

**Facility Information**

<b>RBLC ID:</b>	AZ-0024 (final)	<b>Date Last Updated:</b>	12/18/2001
<b>Company Name:</b>	THORNWOOD FURNITURE MFG. INC.	<b>Permit/File No.:</b>	93-0054
<b>Plant Name:</b>	THORNWOOD FURNITURE MFG. INC.	<b>Permit Date:</b>	06/13/1994 (actual)
<b>EPA Region:</b>	9	<b>SIC Code:</b>	2500
<b>County/State:</b>	/ AZ	<b>NAICS:</b>	
<b>Permit Issued By:</b>	MARICOPA CO AIR POLLUTION CONTROL, AZ (agency) DALE A. LIEB (contact) (602) 506-6738		
<b>Plant Description:</b>			
<b>Notes:</b>	EMISSION LIMITS WITH RECORDKEEPING AND REPORTING.		

**Process/Pollutant Information**

<b>PROCESS:</b>	WOODWORKING	<b>SCC Code:</b>	30702099
<b>Process Type:</b>	30.007 (Woodworking)	<b>Compliance Verified:</b>	No
<b>Primary Fuel:</b>			
<b>Throughput:</b>	0		
<b>Process Notes:</b>			



**Facility Information**

**RBLC ID:** VA-0217 (final) **Date Last Updated:** 12/18/2001  
**Company Name:** DUTAILIER VIRGINIA, INC. **Permit/File No.:** 30876  
**Plant Name:** DUTAILIER VIRGINIA, INC. **Permit Date:** 03/17/1994 (actual)  
**EPA Region:** 3 **SIC Code:** 2512  
**County/State:** HENRY / VA **NAICS:**  
**Permit Issued By:** VIRGINIA ENVIRONMENTAL QUALITY AIR DIV. (agency)  
LARRY S. LEONARD (contact) (804) 582-5120  
**Plant Description:**  
**Notes:** VE'S NOT TO EXCEED 5% OPACITY.

**Process/Pollutant Information**

**PROCESS:** COATING, PRODUCTION BOOTH  
**Process Type:** 41.025 (Wood Products/Furniture Surface Coating (except 41.006))  
**Primary Fuel:** **SCC Code:** 40201901  
**Throughput:** 63.00 UNITS/HR **Compliance Verified:** No  
**Process Notes:**

**POLLUTANT:** VOC **CAS No.:** VOC  
**Emission Limit 1:** 160.9000 LB/HR **Basis:** BACT  
**Emission Limit 2:** 153.8000 TPY **% Efficiency:** 97.800  
**Standard Emission:** 0  
**Control Method:** (P) HVLP SPRAY GUNS  
**Pollutant Notes:**

**POLLUTANT:** PM10 **CAS No.:** PM

**Emission Limit 1:** 0.9000 LB/HR **Basis:** BACT  
**Emission Limit 2:** 0.8000 TPY **% Efficiency:** 99.900  
**Standard Emission:** 0  
**Control Method:** (A) FABRIC FILTER & BAFF. +BOOTH FILTER  
**Pollutant Notes:**

Process/Pollutant Information
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**PROCESS:** COATING, TOUCH-UP BOOTH  
**Process Type:** 41.025 (Wood Products/Furniture Surface Coating (except 41.006))  
**Primary Fuel:** **SCC Code:** 40201901  
**Throughput:** 0 **Compliance Verified:** No  
**Process Notes:**

**POLLUTANT:** VOC **CAS No.:** VOC  
**Emission Limit 1:** 1.6000 LB/HR **Basis:** BACT  
**Emission Limit 2:** 1.6000 TPY **% Efficiency:** 97.800  
**Standard Emission:** 0  
**Control Method:** (A) BAFF. +BOOTH FIL  
**Pollutant Notes:**

**APPENDIX C**

**Compliance Report & Certification**

# COMPLIANCE REPORT & CERTIFICATION

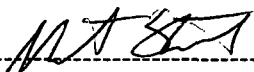
## Compliance Report

The Merrillat-Ocala facility is operating in compliance with all applicable air quality requirements. For Emissions Unit 1 (woodworking operations), a Method 9 compliance test report dated November 29, 2000 has been submitted to the Florida Department of Environmental Protection. For Emissions Unit 2 (finishing operations), Merrillat has developed and maintains a work practice implementation plan in accordance with 40 CFR Subpart 63, Subpart JJ. Also for Emissions Unit 2, a material tracking system (REGMET) has been implemented to quantify and record HAP usage from the application of finishing materials for demonstrating compliance with applicable emission limitations prescribed by 40 CFR 63, Subpart JJ.

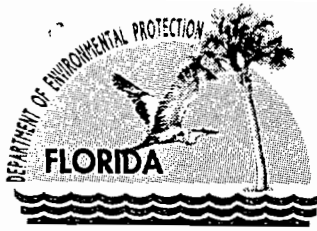
## Compliance Certification

Merillat Corporation proposes to submit periodic compliance certification statements annually to the Florida Department of Environmental Protection (DEP) throughout the Title V permit term for the Merrillat-Ocala facility.

I, the undersigned, am the responsible official as defined in Chapter 62-210.200, F.A.C., of the Title V source for which this report is being submitted. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made and data contained in this report are true, accurate, and complete.

  
-----  
Signature

10-11-04  
-----  
Date



Jeb Bush  
Governor

# Department of Environmental Protection

Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Colleen M. Castille  
Secretary

February 21, 2005

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Michael Stickles, Plant Manager  
Merillat Corporation  
1300 Southwest 38th Avenue  
Ocala, Florida 34474

Re: Second Request for Additional Information  
Ocala Facility Expansion Project  
File Nos. 0830137-003-AC (PSD-FL-347), 0830137-004-AV

Dear Mr. Stickles:

The Department is in receipt of your Response to Request for Additional Information dated January 18, 2005. While the bulk of our requests were more than adequately addressed, some further clarifications are needed. Also, based on recent discussions with Merillat and the prospect of different control strategies, additional information is required. In order to continue processing the application, we will need the information below. Should your response to any of the below items require new calculations, please submit the new calculations, assumptions, reference material and appropriate revised pages of the application form.

The specific requests for additional information are set forth as follow:

Cost effectiveness for a regenerative thermal oxidizer and one vendor quote was supplied in the recent response to the Department's request for at least 2 vendor quotes and cost analysis. The requested cost for a concentrator with oxidizer based on a current vendor quote was not supplied. On February 17<sup>th</sup> representatives from the Bureau of Air Regulation met with representatives from Merillat and Durr to discuss control options including a combination of concentrator and RTO, and the prospect of controlling only those areas of each line where VOC concentrations are highest.

- 1) Describe in detail the amount of VOC emissions from each area of the finishing lines. Based on the facility walkthrough recently conducted by DURR, discuss which area/s would be most effective to control based on quantity of emissions from each area, and cost for each.
- 2) Provide a cost estimate for a combination of concentrator and RTO designed to maintain VOC emissions below the PSD-major facility threshold of 250 tons per year.

Provide details from the vendor regarding the suitability of a concentrator for this facility. If the vendor does not recommend a concentrator for this specific application, the vendor must identify each potential problem that would adversely impact this control option (i.e., elevated inlet temperatures, high inlet humidity, the formation of fine particulates in the form of silicon and titanium oxides, etc.). Provide sufficient details to support each claim such as: temperature/humidity performance curves; a list of coatings/solvents that contain the constituents capable of forming the fine particulate; the chemical reaction and condition leading to the formation of this particulate; an estimate of the

*"More Protection, Less Process"*

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particulate formation rate given the chemical species and usage rates at Merillat; and an estimate of the expected particulate size range. Describe the affects of the fine particulate on the concentrator and the RTO. Describe any differences in impacts for carbon and zeolite concentrators. Provide typical humidity levels and ambient temperature readings for the Ocala facility for different times of the year.

Is it possible to periodically wash the concentrator? What would be the frequency and downtime associated with washing? How would this impact the concentrator replacement frequency?

Has the vendor supplied any concentrators for the wood surface coating industry? Please provide contact information.

The vendor should also provide any actual case studies where a concentrator was used in a similar finishing operation (i.e., automotive) where such fine particulate was formed and caused adverse problems. Describe the operation, associated problems, levels of chemical species causing the formation of the particulate, and the actions taken to correct the problems.

As a separate line item, provide a cost estimate for a particulate control device to remove the fine particulate.

- 3) Provide a cost estimate for an RTO designed to control all four coating lines.
- 4) Provide a cost estimate for controlling only the proposed fourth line with an RTO. This scenario should include re-designed application booths that would re-circulate a portion of the booth air to increase VOC concentrations and reduce flows to the RTO.
- 5) For each of the above cost estimates identify:
  - Destruction efficiency across the RTO should be at least 98%, preferably 99%, but optimized for costs.
  - Capture efficiency and operational areas identified for control may be selected as necessary to optimize costs.
  - Provide line item estimates for ductwork, foundations and other structural support items.
  - Provide an estimate of the costs for modifying the existing spray booths to lower exhaust flow and increase VOC concentration in the exhaust delivered to the RTO. Describe the modifications.
  - Provide an estimate of the costs for new spray booths designed to lower exhaust flow and increase VOC concentration in the exhaust delivered to the RTO.
  - For all cost estimates, please use current prices for natural gas and electricity available to Merillat in Ocala. Provide supporting information.
- 6) Describe the method used to determine the LEL for the gas mixture in each spray booth. What is the actual concentration in each booth and how is this calculated? Provide specifications used by Merillat for maximum allowable concentrations inside manual spray booths. What is the minimum flow needed to maintain this level?
- 7) Discuss the feasibility and appropriateness of natural gas injection to lower operating costs for the RTO.
- 8) Identify and describe each existing wood coating operation affiliated with Masco that employs add-on controls (i.e., RTO, etc.) to reduce VOC/HAP emissions. Describe the controls used and identify the vendor. Estimate the controlled and uncontrolled VOC emissions from each such facility. Identify the maximum and actual cabinet production capacity. Describe the problems associated with the



Mr. Michael Stickles  
DEP File: 0830137-003-AC, 0830137-004-AV, PSD FL-347  
February 21, 2005

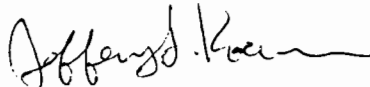
formation of fine silicon and titanium oxides particulate. What are the procedures used to mitigate this problem.

- 9) Provide a recommendation from Durr regarding the appropriate control technology for the wood coating lines at the Merillat facility. If this is different from any of the above scenarios, provide a cost estimate.
- 10) Identify alternative solvents and coatings that could be implemented to reduce VOC emissions.
- 11) In the first request for additional information, an ambient air quality analysis was requested for ozone for the Class I and Class II areas. Impacts on soils and vegetation were addressed in the response dated Jan. 18, 2005. However, will the VOC emissions affect a Class I area? Also in the response, it states that the "increase in VOC emissions associated with the project is not expected to result in an increase in ozone levels for the Ocala area." Please explain further how this conclusion was made. Was ambient air quality modeling involved in this conclusion? This conclusion is for the Ocala area and ozone is a regional pollutant. Can this conclusion be made for surrounding areas as well?
- 12) To satisfy Rule 62-212.400(3)(h)(5), the response dated Jan 18th states that Ocala, Marion County has seen "moderate growth." How was this determined? Has there been any growth in the vicinity of the existing Merillat facility? If so, what kind of growth. Commercial, Residential?

Rule 62-4.050(3), F.A.C. requires that all applications for a Department permit must be certified by a professional engineer registered in the State of Florida. This requirement also applies to responses to Department requests for additional information of an engineering nature. Please note that per Rule 62-4.055(1), F.A.C., "The applicant shall have ninety days after the Department mails a timely request for additional information to submit that information to the Department ... Failure of an applicant to provide the timely requested information by the applicable date shall result in denial of the application."

If you have any questions, please call Cindy Mulkey at 850/921-8968.

Sincerely,



Jeff Koerner, P.E.

Air Permitting South Section

Cc: Len Kozlov, DEP  
Jim Little, EPA Region 4  
John Bunyak, National Park Service  
Donna Tackett, Merillat - Ocala  
Joel Cohn, P.E., Malcolm Pirnie  
David Cibik, P.E., Malcolm Pirnie

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Michael Stickles, Plant Manager  
 Merillat Corporation  
 1300 Southwest 38<sup>th</sup> Avenue  
 Ocala, Florida 34474

2. Article Number

(Transfer from service label)

7000 1670 0013 3109 9427

PS Form 3811, August 2001

Domestic Return Receipt

102595-02-M-1540

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

X *[Signature]*  Agent  Addressee

B. Received by (Printed Name) *[Signature]* Date of Delivery *8/24/05*

D. Is delivery address different from item 1?  Yes  No  
 If YES, enter delivery address below:

3. Service Type

- Certified Mail  Express Mail
- Registered  Return Receipt for Merchandise
- Insured Mail  C.O.D.

4. Restricted Delivery? (Extra Fee)  Yes

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January 18, 2005

BUREAU OF AIR REGULATION

Mr. A.A. Linero  
Administrator -- South Air Permitting Section  
Department of Environmental Protection  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Re: Request for Additional Information  
Merillat Corporation – Ocala Facility Proposed Expansion

Dear Mr. Linero:

In response to the request dated November 8, 2004, from the Florida Department of Environmental Quality (DEP), the Merillat Corporation (Merillat) is providing additional information regarding the proposed expansion of the Ocala facility. Also, we want to thank you and other DEP staff for meeting with us and visiting the Ocala facility on December 16, 2004. We trust that the facility tour and discussions were informative and provided you with additional insights regarding our operations in Ocala. Below are responses for each item as requested in the November 8<sup>th</sup> letter.

#### **I. Project Description**

To clarify a few items described in the November 8<sup>th</sup> request letter and as discussed in detail during the December 16<sup>th</sup> meeting, the following points are important to note with respect to the Ocala facility's history:

When the facility was initially planned and an air permit application submitted to DEP-Orlando in May 1999, there were no defined construction plans for a four line operation. At the time, Merillat proposed to install a finishing system consisting of a series of spray booths, flash areas, and curing ovens. The plant evolved into the current three line system over time as dictated by consumer demand for complete kitchen cabinet sets within an aggressive delivery time to meet builder installation schedules. The facility is based on a "lean", "on-time", "no inventory" concept of manufacturing which is the first of its type for Merillat where a kitchen cabinet set is produced from milled lumber to assembly entirely at one plant. While there is extra space in the building to accommodate a 4<sup>th</sup> finishing line and/or other equipment, this was not part of the original plans when

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the company filed for an air permit in May 1999. The commitments and goals that were initially made in 1999 were to reach a production level of approximately 2600 cabinets per day, employ 350 people on a full-time basis, and construct a facility for a cost of at least \$16 million dollars. Each of these commitments has been met with the current three line system. Documentation of these commitments and goals (as contained in internal company documents and an agreement with the City of Ocala) has been provided via e-mail to DEP on January 7, 2005.

1. *Control equipment cost effectiveness on the basis that all VOC from original development plus the expansion are available for control. However, add-on control might maintain emissions at their pre-expansion level in which case Merillat would not trigger PSD and would only need to maintain emissions at 249 TPY or less.*

Please see the response below under Section II. BACT analysis item 10) which includes control equipment cost effectiveness for control of all VOC from the original facility plus the proposed expansion.

2. *Site plans and floor plans showing equipment layouts before and after the expansion. (This should include a description of any foundation or infrastructure completed for future building expansion).*

Floor plan drawings are provided in **Attachment I** showing the equipment layout for the current finishing system (3 lines) as **Figure I-1** and for the finishing system including the proposed additional equipment (4 lines) as **Figure I-2**. As discussed above, there is space in the finishing area of the manufacturing building to accommodate the proposed finishing equipment without infrastructure work or building expansion.

3. *Description of completed construction. Identify each individual coating line and each individual piece of equipment on that line. This includes, but is not limited to, each spray booth, flash area, and curing oven.*

The current finishing system in-place at the Ocala facility is comprised of three lines. Each line includes the following equipment:

- Back-to-back toner, stain, sealer, and topcoat booths
- Sealer and Topcoat flash areas
- Sealer and Topcoat cool down areas
- Toner, stain, sealer, and topcoat ovens
- Stain wipe areas

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Ancillary finishing equipment includes:

- Glaze spray booths (2) and accessory spray booth (1)
- Glaze flash area
- Glaze oven and off-line oven
- Glaze wipe area

4. *Please clarify the construction plans for this specific project request including a timeline for planned stages of construction and amount of equipment involved. Identify each individual piece of equipment for the new line. This includes, but is not limited to, each spray booth, flash area, and curing oven.*

The proposed plans to install additional finishing equipment will take approximately 6 months. This 6-month timeline consists of approximately 2 months for in-shop, pre-build of the finishing equipment by the equipment supplier; 2 months for installation on-site by the equipment supplier and other contractors; and 2 months for troubleshooting and equipment start-up by Merillat. The equipment to be installed includes the following:

- Back-to-back toner, stain, sealer, and topcoat booths
- Sealer and Topcoat flash areas
- Sealer and Topcoat cool down areas
- Toner, stain, sealer, and topcoat ovens
- Stain wipe areas

Also, an accessory booth and an off-line oven are planned as part of the proposed expansion project.

5. *If the project is for the addition of one coating line, explain why this line has such a high potential compared to the three existing lines. Explain why the original permit application did not include a request for a higher PTE.*

The requested increase in VOC emissions and new finishing line is based on projected increases in demand for kitchen cabinets and the new styles being demanded involving colors and glazes. These newer styles require additional finishing application steps which generate higher VOC emissions on a per cabinet basis in comparison with natural product finishes. Therefore, Merillat is requesting additional VOC capacity at this time in response to consumer demands for more cabinets and for greater percentages of cabinets produced with color finishes.

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At the time the original permit application was prepared and the facility was being planned, demand for kitchen cabinets in the regional area to be served by the Ocala facility was 1,200 cabinets per day. This level of demand equates to approximately 110-120 tons/year of VOC emissions assuming a 250 day/year operating schedule (typical for Merillat plants) and an estimated mix of color and natural finished cabinets. In order to facilitate a reasonable level of growth beyond the 1,200 cabinet per day level and flexibility with respect to product mix (color vs. natural finishes), a request for additional VOC throughput was requested to facilitate additional production (2,500 cabinets per day) while staying below the 250 ton/year PSD permitting threshold. It is important to recognize that in 1999 the company did not know if the facility would ever reach this production level. Demand for kitchen cabinets is often cyclic, extremely difficult to predict over a long term basis (beyond 6-12 months), and is tied to constantly changing economic conditions. This point is illustrated by the fact that the Ocala facility was reviewed as a candidate for shutdown by Merillat corporate management in 2001 when demand fell to 800 cabinets per day. Currently, the facility is producing about 2,500 cabinets per day and future projections suggest demand above this level will soon occur. As such, Merillat is now requesting an increase in the VOC emission limit so that additional kitchen cabinets and varying color styles demanded by the consumer can be produced.

6. *Describe whether the current potential VOC emissions are limited by the existing woodworking operations and clarify plans for any additions or expansions of these areas.*

Currently, VOC emissions are not limited by the existing woodworking operations and the woodworking operations are not a "bottleneck" in terms of production capacity of the plant. Production capacity is currently limited by the assembly and finishing areas. There are no current plans to expand the woodworking area or add a new set of woodworking machinery. However, Merillat will likely move or rearrange certain pieces of machinery within the woodworking area as part of the expansion project to enhance production operations.

7. Quantify the amounts of VOCs from glues and adhesives and describe the locations where they are applied.

Glues/adhesives are used in the component and cabinet assembly area. In the assembly process, Merillat uses a water-based glue which contains a very trace (essentially negligible) level of VOC and a hot melt adhesive with no VOC. Also, since the facility uses self-adhesive, peel-back type labels, no VOC containing glues are used for product labeling.

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## II. BACT Analysis

1. *Describe the existing exhaust system and baghouse equipment used to control particulate matter. Identify the cost of these systems.*

An extensive dust collection system is used to control particulate matter emissions from the woodworking area of the facility. This system collects wood dust and chips from the machining operations. The dust collection system is comprised of a network of ductwork with pick-up points at each piece of machinery generating dust and the collected particulate matter is then routed to fabric filter devices. There are three units (each rated at 80,000 cfm) drawing dust from the woodworking machinery. Although the dust collection system can be operated with an exhaust from the fabric filters to the atmosphere, the current operating mode is 100 percent recirculation of air back into the manufacturing building with no direct exhaust to the atmosphere.

The cost to install the dust collection system including the three fabric filter units and ductwork, supports, electrical, and other direct capital cost items was approximately 3.7 million dollars.

2. *Describe the existing ventilation systems. For each existing spray booth, flash area, curing oven identify:*
  - *Quantity of each*
  - *VOC emissions from each*
  - *Flow rate (scfm) from each*
  - *Amount (feet) and cost of existing ductwork used to directly vent VOC emissions to the atmosphere*
  - *Size, flow rate, and cost of each existing fan*

The ventilation system used to exhaust fumes from the finishing system consists of multiple ventilation fans, ductwork, exhaust pick-ups, and numerous exhaust stacks located on the roof-top of the manufacturing building. Below is a breakdown of individual exhausts and associated flow rates on a per line basis for each of the three current finishing lines:

- Spray booths – 8 exhaust fans at 7,625 cfm each (61,000 cfm total)
- Flash areas – 4 fans at 3,000 cfm each (12,000 cfm total)
- Cool down – 2 fans at 6,000 cfm each (12,000 cfm total)
- Curing ovens – 1 fan at 1,000 cfm for toner and 6 fans at 2,000 cfm (13,000 cfm total)

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- Stain wipe area – 2 fans at 9,000 cfm (18,000 cfm total)

Therefore, the total exhaust rating per line is 116,000 cfm and the total rated exhaust for all three current lines is 348,000 cfm. In addition there are the following exhausts for the Glazeing Area:

- Glaze spray booths, flash area, and oven – 4 fans at 2,000 cfm (8,000 cfm total)
- Glaze wipe area – 1 fan at 3,000 cfm
- Accessory spray booth – 1 fan at 10,500 cfm
- Accessory off-line oven – 1 fan at 1,000 cfm

VOC emissions from each exhaust will vary based on the types of finishes being applied. Merillat estimates that most of the VOCs will be emitted from the spray booths (approximately 90 percent or more) and the balance from the flash areas and curing ovens. Typically, an estimated 50-60 percent of the VOC materials are applied in the sealer and topcoat spray booths. The remaining 40-50 percent of VOC materials is applied in the toner, stain, glaze and accessory spray booths and wipe areas. It is important to recognize that this estimated breakdown is dependent on the types of cabinets being produced (natural or color finishes). If consumer demand continues to shift towards the color products (as is the current trend), then a greater percentage of VOCs will be applied outside of the sealer and topcoat booths.

Below is a summary of costs and sizes regarding the ductwork and fans used to ventilate the finishing application areas. This information is provided on a per line basis and these costs do not include installation costs.

- Spray booths exhaust ductwork (23" diameter) - \$20,170
- Spray booths exhaust fans (7,625 cfm/fan; 8 fans) - \$15,840
- Flash areas exhaust ductwork (16" diameter) - \$6,720
- Flash areas exhaust fans (3,000 cfm/fan; 4 fans) - \$2,980
- Cool down areas exhaust ductwork (20" diameter) - \$4,000
- Cool down areas exhaust fans (6,000 cfm/fan; 1 fan) - \$3,160
- Toner curing oven exhaust ductwork (10" diameter) - \$1,460
- Toner curing oven exhaust fan (1,000 cfm) - \$600
- Stain, sealer, topcoat ovens exhaust ductwork (12" diameter) - \$9,120
- Stain, sealer, topcoat ovens exhaust fans (2,000 cfm/fan; 6 fans) - \$3,720
- Stain wipe area exhaust ductwork (24" diameter) - \$6,200
- Stain wipe area exhaust fans (9,000 cfm/fan; 2 fans) - \$4,840

(Note: the average length of exhaust ductwork for each of the above items is approximately 30 feet per fan.)



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3. *Clarify that the cost of ductwork/fans included with the control equipment was discounted by the amount equal to the cost of ductwork/fans typically used to vent VOC emissions directly to the atmosphere when performing cost analyses.*

Yes, the cost of ductwork and fans included as part of the economic impact analysis was discounted for ductwork and ventilation fans that would be necessary for venting the finishing system fumes directly to atmosphere (costs for directly venting the exhausts to atmosphere were excluded from the ductwork cost estimate). The cost estimate for ductwork as shown in the cost tables in Appendix B of the permit application document includes only additional costs associated with routing the exhausts through a common header system to a control device (thermal oxidizer) and costs for required diversion valves, dampers, and booster fans required to properly balance the system.

4. *Describe the area covered by the two 60,000 cfm control systems. Describe whether exhaust from any of the three existing coating lines is to be included in possible control systems.*

In the BACT Analysis presented in Appendix B of the permit application, the economic analysis was performed for two 60,000 cfm control systems to control emissions from only the proposed 4th finishing line. To control VOC emissions from the three existing finishing lines would require additional control devices and modifications to the ductwork systems. Each line would require a similar sized control system (two 60,000 cfm systems or possibly one 120,000 cfm system per line).

5. *Please obtain two or more current vendor quotes for an RTO designed specifically for the proposed system and also for the cost of an RTO had it been installed with the existing equipment. Provide copies of these quotes along with all related vendor correspondence to the Department. As discussed previously on the phone, revise each cost analysis to reflect actual budget estimates from control equipment vendors. The revised estimates will also affect other cost items such as the pressure differential through the system and the fan electricity costs. Also note that control equipment fan electricity costs would be offset by the ventilation fan electricity costs.*

Revised economic impact analyses have been performed for the proposed new finishing equipment and for control of the entire finishing system. This analysis is based on a recent vendor quotation obtained from Durr Environmental, Inc. for a 120,000 cfm RTO. This price quotation is provided in **Attachment II**. Based on our experience with Durr units (including the recent installation at our facility in Atkins, Virginia), Durr provides high quality, reliable equipment with a proven track record

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which is particularly important as equipment malfunctions and downtime creates significant environmental issues and directly impacts our customers (as we build only to order units with a 5-day lead time on most products). Further, we have found others in the wood furniture industry including the Steelcase facility in Michigan, have also selected to use Durr RTO units for control of VOCs from finishing systems demonstrating confidence in their reliability.

The revised analysis was completed based on a similar approach using the methodology from the USEPA's Control Cost Manual as was used in the original analysis presented in the permit application. However, the equipment cost and many of the other capital cost items (ductwork, freight, and certain installation and indirect cost items) as well as certain operating costs (electrical and natural gas) were included in the quote provided by Durr. Also, a 20-year equipment life was assumed as requested by DEP. The table presented below summarizes the results from the revised economic impact analysis. Detailed cost tables are provided in **Attachment II** as **Table II-1** for control of the proposed new finishing line and **Table II-2** for control of the entire finishing system.

Equipment Controlled	Emissions Reduced (tons VOC/yr)	Total Annualized Cost (\$/yr)	Cost Effectiveness (\$/ton VOC)
Proposed Finishing Line	145.8	1,338,649	9,181
Entire Finishing System	369.9	5,354,596	14,476

- 6. Provide a cost analysis for a rotary concentrator with oxidizer based on a current vendor quote designed specifically for the proposed system had it been installed on the original equipment. The application states that Merillat has evaluated the use of these systems. Include this evaluation with the requested information.*

Over the past few years, Merillat has requested information regarding rotary concentrators from a vendor specializing in this technology (Anguil Environmental Systems, Inc.). We have learned that this technology has not been applied on a full-scale finishing system in the wood furniture industry and has only been implemented at a few facilities in other types of industries. A recent discussion with an Anguil regional vice president held on January 7, 2005, clearly indicates the mixed level of success they have experienced with the concentrators. When asked about reliability, equipment up-time, and performance guarantees, the Anguil response is non-specific and in our view ambiguous. They have also stated that a traditional RTO system is their preference for demonstrating compliance with environmental permit

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requirements. Further, they did not provide the name and location of an example facility where a rotary concentrator has been installed and operated. This information was desired to obtain actual data on system performance and reliability.

The Anguil concentrators utilize zeolite as the adsorbent material. While this material performs well under certain conditions, it is subject to fouling from contaminants, metals, and moisture and the exhaust temperature stream must be less than 110 degrees F. These operational limitations are important considerations when evaluating technical suitability to the finishing system in Ocala since the exhaust is at an elevated temperature and often has a high humidity level. In light of the above factors, Merillat is not able to provide a cost analysis for a rotary concentrator nor would funding be made available to purchase this equipment without a firm performance guarantee from a vendor with a demonstrated performance record implementing this technology on an exhaust stream similar to the Ocala finishing system's exhaust stream.

7. *As discussed during previous phone conversations, revise the cost analysis to reflect a 20-year life for the control equipment.*

The revised cost analyses (in response to item 5. above and item 10. below) are all based on a 20-year control equipment life as requested. Nonetheless, based on operating experience Merillat believes a 15-year equipment life is more appropriate and the latest version of the U.S. EPA Air Pollution Control Cost Manual suggests a 10-year equipment life should be used for thermal oxidizers. We are not aware of any RTO in the industry that has been in operation for 20-years without a major re-build.

8. *Based on the application, the RACT/BACT/LAER Clearinghouse (RBLC) identifies at least one facility that operates an RTO as BACT to reduce VOC emissions. Discuss why an RTO was a cost effective and appropriate control technology for that facility and is not for the project.*

There are two facilities listed in the RBLC which were permitted based on the operation of RTOs. The first facility, Masterbrand Cabinets (Indiana), operates an electrostatic finishing line. This type of application system is different from the manual application system in place at the Ocala facility and involves enclosed application areas with substantially lower exhaust air volumes thus making add-on controls more cost effective. We understand that the Masterbrand facility is very similar to the Merillat Atkins, Virginia facility which has also implemented an RTO (see further discussion below regarding the Atkins facility under items 9 and 11). The second facility, Steelcase Wood Furniture (Michigan), does not manufacture kitchen cabinets but produces wood office furniture. The Steelcase process is also

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different from Ocala in that it consists primarily of enclosed flat line spray booths with a few manual hang-line spray booths. Steelcase controls VOC emissions with RTOs from a portion of its finishing system (washcoats and tiecoats application). Emissions from four flat-line enclosed spray booths and two manual hang-line booths are controlled. Further, a limited portion of the VOCs are required to be captured (85%) and vented to the RTOs. Since the operations are comprised of primarily enclosed areas, they provide for a more cost effective scenario (lower exhaust volumes and higher VOC concentrations) for implementing an RTO system.

It is important to recognize that all other facilities listed in the RBLC were permitted without add-on controls. This list includes wood cabinet coating operations recently permitted in the 2001-2004 time period.

9. *Based on discussions with other permitting agencies, other facilities not identified in the RBLC (including other Merillat facilities) operate RTOs as BACT to reduce VOC emissions or to avoid BACT or PSD review. Discuss why an RTO was cost effective and appropriate control technology for other Merillat facilities and not for this project.*

An RTO is not cost effective for application to the type of finishing system in use at the Ocala facility. This is due to the high volumes of exhaust air required to properly ventilate the manual application spray booths and flash areas. As stated above, approximately 120,000 cfm of exhaust air is generated per finishing line. Further, the VOC concentration in the exhaust stream is dilute (well less than 100 ppm<sub>v</sub>). This combination of high exhaust volume and low VOC concentration results in an RTO not being cost effective. As noted and as explained during the December 16<sup>th</sup> meeting, other Merillat facilities have installed and currently operate RTOs to reduce VOC emissions from finishing operations. However, these RTOs have been implemented on enclosed, automated finishing operations. The RTO in operation at Merillat's Atkins, Virginia facility is rated at 25,000 cfm and the RTO at Merillat's Jackson, Ohio facility is rated at 45,000 cfm. These RTOs are more cost effective due to much lower exhaust air volumes and higher VOC concentrations.

As discussed during the meeting on December 16<sup>th</sup>, Merillat selected the manual application finishing process for the Ocala facility for specific reasons. These reasons include both operational and environmental benefits and are based on decades of experience in finishing wood cabinet components. In comparison with the highly automated systems, hand application systems using well-trained operators and efficient spray technologies result in higher material transfer efficiency, less production flaws and wasted product (believed to be due primarily to the multiple

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inspection points within the process), and significantly lower use of clean-up solvents.

- 10. Revise the cost analysis to reflect cost per ton of VOC removed by subtracting the actual emissions value (166 tons/year) from the newly proposed potential emissions value (411 TPY) and applying a 90 percent overall control efficiency factor to the remaining 245 tons. Also include a cost per ton analysis applying a 95 percent overall control efficiency factor. Supply an additional cost analysis to reflect cost per ton of VOC removed assuming control of the entire future potential emissions (411 TPY) with a 90 and 95 percent overall control efficiency factor.*

Revised cost analyses are provided as indicated above in response to item 5. An analysis was not performed by subtracting the actual emissions value (166 tons/year) from the newly proposed emissions limit (411 tons/year) since this type of past actual to future potential emissions analysis only has relevance with respect to PSD applicability for major PSD sources. However, an analysis based on control of the entire system (411 tons/year) is appropriate under the PSD regulations and was completed as requested and is described under item 5. above. The issue of 90 and 95 percent overall control efficiency has been further considered and for the technical reasons related to capture efficiency and low VOC concentration as discussed in detail in the permit application (please see page Appendix B-5), it is inappropriate to perform an analysis based on a 95 percent overall control efficiency. Merillat would not be able to obtain the performance guarantees required to secure funding for meeting a 95 percent overall control level. In actuality, achieving the 90 percent level on an Ocala-type manual spray finishing system would be extremely challenging. This position is further supported by control requirements at other facilities. For example, the Steelcase facility listed in the RBLC was permitted based on a control system with a collection efficiency of only 85 percent (overall control efficiency of 80 percent) in recognition that it is not technically feasible to achieve a capture efficiency approaching 100 percent.

- 11. Provide information to support the statement that the existing facilities employing RTOs have "highly automated" spray application systems and not trained operators with HVLP systems. Is this also true for the other Merillat facility utilizing RTO?*

The two facilities with RTOs referenced in the RBLC primarily utilize automated, spray application in enclosed areas. The controlled finishing equipment at the Masterbrand facility in Indiana is automated and enclosed with electrostatic spray and at the Steelcase facility in Michigan the controlled application equipment consists of four flat-line, enclosed booths and two manual spray booths with limited exhaust

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flows. The other Merillat facilities with RTOs (Atkins, Virginia and Jackson, Ohio), also use automated spray systems in well-enclosed application areas.

12. *The application describes "non-destructive" control options as "not as effective" in reducing VOC emissions and were eliminated from consideration. In a top-down BACT determination, controls are ranked according to effectiveness. If a top control is rejected, the next most effective control option must be reviewed. Please revise the top-down BACT analysis accordingly.*

The non-destructive control options (carbon adsorption, absorption, and condensation) were eliminated as BACT candidates and not further evaluated in the top-down process for specific reasons related to technical feasibility and a lack of demonstrated use in the wood furniture industry or similar industries. Due to the wide range of various VOCs in the exhaust stream from the finishing system as well as the low ppm<sub>v</sub> loading, Florida humidity levels and air stream temperature, the performance of these non-destructive control options would not be reliable. For example, a carbon adsorber may be highly effective in reducing emissions of certain types of VOCs including many high molecular weight or long-chain structured compounds such as toluene and xylene, but it would be very ineffective in controlling emissions of smaller compounds like methanol. Similarly, the performance of an absorption/scrubbing system is dependent on pollutant-specific properties (such as solubility) of the organics in the exhaust stream. Consequently, these types of pollutant sensitive controls are not used to reduce emissions from multi-pollutant process exhaust streams and satisfactory performance guarantees from equipment manufacturers can not be obtained. This is evident by the fact that these systems have not been commercially demonstrated for use to control VOC emissions from finishing systems in the wood cabinet industry.

13. *The application states that the VOC concentration in the exhaust stream can be as low as 100 ppm<sub>v</sub>. Identify the maximum and average VOC concentration expected in the exhaust stream.*

The VOC concentration in the exhaust stream from the finishing system will vary based on the various finishing materials applied, which depend on the types of cabinet finishes demanded by the consumer. Prior to 2004, the facility was producing cabinets which generated approximately 0.7 pounds of VOC per cabinet. Current trends are shifting towards more color and specialty finished products requiring additional finishing material application steps per cabinet and an average approaching 1 pound of VOC per cabinet. Based on a finishing system exhaust rate of approximately 116,000 cfm per line (464,000 cfm total for 4 lines), a maximum production level of approximately 3,460 cabinets per day, 16 hours per day of

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operation, and conservatively assuming a high percentage of color products and a representative VOC molecular weight of 46 (ethyl alcohol), the average and maximum VOC concentration expected in the exhaust stream is estimated to be:

- Average (0.9 lb VOC/cabinet): 60 - 70 ppm<sub>v</sub>
- Maximum (1.2 lb/VOC/cabinet): 80 - 90 ppm<sub>v</sub>

These average and maximum estimated values are both below the 100 ppm<sub>v</sub> level stated in the permit application. The 100 ppm<sub>v</sub> level was conservatively estimated based on potentially recirculating a portion of the exhaust air. This possible approach would need to be further evaluated for technical feasibility including an assessment of worker exposure issues and would entail extra capital costs (not accounted for in the BACT analysis) if implemented.

### III. Modeling Requirements

1. *Submit the representative monitoring ozone data the applicant refers to and the locations of the monitors with respect to the facility.*

Ozone data is available from the state of Florida's ambient air monitoring network (Florida's Air Quality System). Ambient data from the network is available on the DEP's website at <http://www.dep.state.fl.us/air/flags.htm>. There are two ozone monitors in close proximity to the Merillat Ocala facility. Below is information for these ozone monitors and averages calculated from ozone concentration data (in units of parts per billion) for the most recent three year period 2002-2004.

Location	Distance from Merillat Facility	8-Hr Ozone Concentration, ppb (2002-2004 average of 4 <sup>th</sup> high)
YMCA	6.4 miles (E)	73
County Sheriff Impound	2.4 miles (NE)	74

Data from the above monitors indicates compliance with the 8-hour ozone standard since the three year averages are below 85 parts per billion at both monitors. Further, compliance with the former 1-hour ozone standard has been demonstrated based on historical 1-hour ozone concentrations less than 120 parts per billion.

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2. *Identify the chemical sources of VOC this project will be emitting.*

The facility uses and will continue to use a variety of finishing materials (stains, toners, sealers, top-coatings, glazes and other specialty finishes) to address the constantly changing styles and colors demanded in the kitchen cabinet industry. These materials contain a variety of VOCs which are closely tracked by Merillat via a specialized computer software system (REGMET). Below are examples of VOCs commonly found in the finishing materials currently in use at the facility. It is important to recognize that this is a non-exhaustive list of VOCs and there are numerous other compounds often contained at low levels in the varying material formulations.

Ethyl alcohol	Butyl acetate
Isopropyl alcohol	Methanol
N-butyl alcohol	Toluene
Isobutyl alcohol	Xylene
1,2,4-Trimethylbenzene	Methyl ethyl ketone
Ethylbenzene	Methyl propyl ketone
Isobutyl acetate	Methyl N-amyl ketone

3. *Perform an ambient air impact analysis for ozone as is required for projects with greater than 100 TPY VOC emissions, including impacts on soils and vegetation, impacts on the Class I and Class II areas.*

Studies have shown that high levels of ozone are potentially damaging to soils and vegetation. Sensitivity to ozone varies between vegetation species and effects on plants will vary based on other factors including soil moisture content and nutrient levels. Damage to certain crops from high ozone levels has occurred in Southern California where ozone concentrations exceed 100 ppb for considerable periods of time. In contrast, ozone levels in the Ocala area are below the established National Ambient Air Quality Standard (NAAQS) and are not at levels typically associated with adverse impacts to soils and vegetation. The increase in VOC emissions associated with the proposed project is not expected to result in an increase in ozone levels for the Ocala area. Consequently, impacts on soils and vegetation from the proposed facility expansion are anticipated to be negligible.

4. *Evaluate odor from sources of VOC with regards to this project, including an evaluation of the extent and degree of odor impacts.*

Many of the finishing materials used by Merillat do have noticeable odors and their presence is evident primarily in the application areas inside the manufacturing building. However, due to a well-designed and operated ventilation system, odors



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outside the manufacturing building are either very faint or non-detectable. To date, the facility has not received any complaints of odorous emissions from the general public or neighboring properties. Similarly, the proposed facility expansion is not expected to cause any off-site odorous emissions problems.

5. *Satisfy the requirements of Rule 62-212.400(3)(h)(5) as it relates to the Merillat project by submitting the appropriate information.*

This item relates to the impact that commercial, residential, industrial and other growth occurring in the area since August 7, 1977 has had on air quality. The Ocala and Marion County area has experienced moderate growth since 1977. Nonetheless, the area has been and is presently in compliance with all established National Ambient Air Quality Standards (NAAQS). Therefore, this growth has not had a detrimental impact on air quality. The proposed Merillat facility expansion will potentially result in 245 tons/year of additional VOC emissions. This represents approximately 1 percent of total VOC emissions for Marion County based on area source and point source emissions data from U.S. EPA's AirData website (indicating 17,664 tons/year of VOC emissions for Marion County). No adverse impacts on air quality in the Ocala and Marion County areas are anticipated from the project.

We appreciate your continued assistance during the permitting process. If you have any questions, please contact Jim Olszewski at (517) 264-9228.

Sincerely,

MERILLAT CORPORATION



Michael Stickles  
Plant Manager

Attachments

Copy: Trina Vielhauer, Florida DEP  
John Ray, Enterprise Florida

# APPLICATION INFORMATION

## Professional Engineer Certification

1. Professional Engineer Name: David Cibik Registration Number: 55467
2. Professional Engineer Mailing Address... Organization/Firm: Malcolm Pirnie, Inc. Street Address: 1715 East 9 <sup>th</sup> Avenue City: Tampa State: Florida Zip Code: 33605
3. Professional Engineer Telephone Numbers... Telephone: (813) 248-6900 ext. 166 Fax: (813) 248-8085
4. Professional Engineer Email Address: Dcibik@pirnie.com
5. Professional Engineer Statement: <i>I, the undersigned, hereby certify, except as particularly noted herein*, that:</i> <i>(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this application for air permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and</i> <i>(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.</i> <i>(3) If the purpose of this application is to obtain a Title V air operation permit (check here <input type="checkbox"/> , if so), I further certify that each emissions unit described in this application for air permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance plan and schedule is submitted with this application.</i> <i>(4) If the purpose of this application is to obtain an air construction permit (check here <input type="checkbox"/> , if so) or concurrently process and obtain an air construction permit and a Title V air operation permit revision or renewal for one or more proposed new or modified emissions units (check here <input checked="" type="checkbox"/> , if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.</i> <i>(5) If the purpose of this application is to obtain an initial air operation permit or operation permit revision or renewal for one or more newly constructed or modified emissions units (check here <input type="checkbox"/> , if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.</i>  Signature: <u>David Cibik</u> Date: <u>1/18/05</u> (seal): NO. 55467

\* Attach any exception to certification statement.

# **ATTACHMENT I**

**FINISHING SYSTEM DRAWINGS (CURRENT AND EXPANDED)**

## **ATTACHMENT II**

- **BACT ECONOMIC IMPACT TABLES**
- **VENDOR QUOTE FOR RTO SYSTEM**

**TABLE II-1**  
**REGENERATIVE THERMAL OXIDATION CAPITAL COST COMPONENTS**  
**MERRILLAT CORPORATION - OCALA, FLORIDA**

<b>DIRECT COSTS:</b>	<b>FACTOR (1)</b>	<b>EQUIPMENT* COST (\$)</b>
(1) Purchased Equipment Costs (for one 120,000 cfm RTO unit)		
a) Basic Equipment		
1) Basic Equipment and Auxiliaries (from vendor)	(2)	3,800,000
2) Ductwork (included above)		
Subtotal of Basic Equipment	A	3,800,000
b) Instruments and Controls	0.1 A	
c) Sales Tax	0.03A	114,000
d) Freight	0.05A	
<b>Total Purchased Equipment Cost</b>	<b>B = 1.18 A</b>	<b>3,914,000</b>
(2) Direct Installation Costs		
a) Foundations and Supports	0.08 B	313,120
b) Handling and Erection	0.14 B	
c) Electrical	0.04 B	156,560
d) Piping	0.02 B	
e) Insulation	0.01 B	
f) Painting	0.01 B	
<b>Total Installed Direct Cost</b>	<b>0.30 B</b>	<b>469,680</b>
<b>TOTAL DIRECT COST</b>	<b>1.30 B</b>	<b>4,383,680</b>
<b>INDIRECT COSTS:</b>		
(3) Engineering	0.10 B	
(4) Construction and Field Expenses	0.05 B	
(5) Contractor Fees	0.10 B	
(6) Start-up	0.02 B	78,280
(7) Performance Test	0.01 B	39,140
(8) Contingency	0.03 B	117,420
<b>TOTAL INDIRECT COST</b>	<b>0.31 B</b>	<b>234,840</b>
<b>TOTAL CAPITAL COST</b>	<b>1.61 B</b>	<b>4,618,520</b>

\* Cost items left blank indicate these items are included as part of vendor's price quotation.

**TABLE II-1 (Continued)**  
**REGENERATIVE THERMAL OXIDATION OPERATING COST COMPONENTS**  
**MERILLAT CORPORATION - OCALA, FLORIDA**

<b>DIRECT OPERATING COSTS:</b>	<b>FACTOR</b>	<b>(1)</b>	<b>COST ( \$ )</b>
Operating Labor (2 shifts/day)	1/2 hour per shift (\$30/hr)		7,500
Supervisory Labor	15% of Operating Labor		1,125
Maintenance Labor (2 shifts/day)	1/2 hour per shift (\$30/hr)		7,500
Maintenance Materials	100% of Maintenance Labor		7,500
Utilities			
a) Electricity	\$37.57/hour (vendor)	<b>(3)</b>	150,280
b) Natural Gas (auxiliary fuel usage)	\$132.46/hour (vendor)	<b>(4)</b>	529,840
<b>Total Direct Operating Cost</b>			<b>703,745</b>
<b>INDIRECT OPERATING COSTS:</b>			
Overhead	60% of Labor and Materials		14,175
Administrative charges	2% of Total Capital Cost		92,370
Property Tax	1% of Total Capital Cost		46,185
Insurance	1% of Total Capital Cost		46,185
Capital Recovery	[CRF (5)][Total Capital Cost]		435,988
<b>Total Indirect Operating Cost</b>			<b>634,904</b>
<b>TOTAL ANNUALIZED COST (per unit)</b>			<b>1,338,649</b>
Total Estimated Annualized Cost for 1 Unit		<b>(6)</b>	1,338,649
Tons Per Year of VOC Removed by Oxidation (90% overall C.E. basis)			145.8
<b>COST EFFECTIVENESS</b>			<b>9,181</b>
<b>(\$/ton VOC Removed)</b>			

**NOTES:**

1. Source: Section 3.2, Chapter 2 of EPA Air Pollution Control Cost Manual (Sixth Edition) EPA/452/B-02-001, January 2002, U.S. EPA Office of Air Quality Planning and Standards (OAQPS).
2. Purchased equipment cost & auxiliaries represents budget estimates from vendor.
3. Electricity cost based on estimate provided by equipment vendor and 4,000 hours/year operation.
4. Natural gas cost based on estimate provided by equipment vendor and 4,000 hours/year operation.
5. CRF (Capital Recovery Factor) = 0.0944 and is based on 20 year equipment life and 7 percent interest rate.
6. Total annual cost is for a single regenerative thermal oxidation system to process approximately 120,000 cfm of exhaust air from a single line (proposed 4th finishing line).

**TABLE II-2**  
**REGENERATIVE THERMAL OXIDATION CAPITAL COST COMPONENTS**  
**MERILLAT CORPORATION - OCALA, FLORIDA**

<b>DIRECT COSTS:</b>	<b>FACTOR (1)</b>	<b>EQUIPMENT* COST (\$)</b>
(1) Purchased Equipment Costs (for one 120,000 cfm RTO unit)		
a) Basic Equipment		
1) Basic Equipment and Auxiliaries (from vendor)	(2)	3,800,000
2) Ductwork (included above)		
Subtotal of Basic Equipment	A	3,800,000
b) Instruments and Controls	0.1 A	
c) Sales Tax	0.03A	114,000
d) Freight	0.05A	
<b>Total Purchased Equipment Cost</b>	<b>B = 1.18 A</b>	<b>3,914,000</b>
(2) Direct Installation Costs		
a) Foundations and Supports	0.08 B	313,120
b) Handling and Erection	0.14 B	
c) Electrical	0.04 B	156,560
d) Piping	0.02 B	
e) Insulation	0.01 B	
f) Painting	0.01 B	
<b>Total Installed Direct Cost</b>	<b>0.30 B</b>	<b>469,680</b>
<b>TOTAL DIRECT COST</b>	<b>1.30 B</b>	<b>4,383,680</b>
<b>INDIRECT COSTS:</b>		
(3) Engineering	0.10 B	
(4) Construction and Field Expenses	0.05 B	
(5) Contractor Fees	0.10 B	
(6) Start-up	0.02 B	78,280
(7) Performance Test	0.01 B	39,140
(8) Contingency	0.03 B	117,420
<b>TOTAL INDIRECT COST</b>	<b>0.31 B</b>	<b>234,840</b>
<b>TOTAL CAPITAL COST</b>	<b>1.61 B</b>	<b>4,618,520</b>

\* Cost items left blank indicate these items are included as part of vendor's price quotation.

**TABLE II-2 (Continued)**  
**REGENERATIVE THERMAL OXIDATION OPERATING COST COMPONENTS**  
**MERRILLAT CORPORATION - OCALA, FLORIDA**

<b>DIRECT OPERATING COSTS:</b>	<b>FACTOR</b>	<b>(1)</b>	<b>COST ( \$ )</b>
Operating Labor (2 shifts/day)	1/2 hour per shift (\$30/hr)		7,500
Supervisory Labor	15% of Operating Labor		1,125
Maintenance Labor (2 shifts/day)	1/2 hour per shift (\$30/hr)		7,500
Maintenance Materials	100% of Maintenance Labor		7,500
Utilities			
a) Electricity	\$37.57/hour (vendor)	<b>(3)</b>	150,280
b) Natural Gas (auxiliary fuel usage)	\$132.46/hour (vendor)	<b>(4)</b>	529,840
<b>Total Direct Operating Cost</b>			<b>703,745</b>
<b>INDIRECT OPERATING COSTS:</b>			
Overhead	60% of Labor and Materials		14,175
Administrative charges	2% of Total Capital Cost		92,370
Property Tax	1% of Total Capital Cost		46,185
Insurance	1% of Total Capital Cost		46,185
Capital Recovery	[CRF (5)][Total Capital Cost]		435,988
<b>Total Indirect Operating Cost</b>			<b>634,904</b>
<b>TOTAL ANNUALIZED COST (per unit)</b>			<b>1,338,649</b>
Total Estimated Annualized Cost for 4 Units		<b>(6)</b>	5,354,596
Tons Per Year of VOC Removed by Oxidation (90% overall C.E. basis)			369.9
<b>COST EFFECTIVENESS</b>			<b>14,476</b>
<b>(\$/ton VOC Removed)</b>			

**NOTES:**

1. Source: Section 3.2, Chapter 2 of EPA Air Pollution Control Cost Manual (Sixth Edition) EPA/452/B-02-001, January 2002, U.S. EPA Office of Air Quality Planning and Standards (OAQPS).
2. Purchased equipment cost & auxiliaries represents budget estimates from vendor.
3. Electricity cost based on estimate provided by equipment vendor and 4,000 hours/year operation.
4. Natural gas cost based on estimate provided by equipment vendor and 4,000 hours/year operation.
5. CRF (Capital Recovery Factor) = 0.0944 and is based on 20 year equipment life and 7 percent interest rate.
6. A total of 4 regenerative thermal oxidation systems are required to process approximately 480,000 cfm of exhaust air (120,000 cfm per unit) from the modified wood products finishing system.





December 8, 2004

Mr. Jim Olszewski  
Merillat Industries  
Corporate Headquarters  
5353 West US 223 / PO Box 1946  
Adrian, MI 49221

Subject: Dür Environmental, Inc. Budget Proposal No. 2004-EA-6379  
Regenerative Thermal Oxidizer System for Ocala Florida

Dear Mr. Olszewski:

We are pleased to offer the above referenced proposal for your consideration.

Dür Environmental, Inc. has installed systems in many different industries and the proposed equipment, a multi-tower RTO with Structured Block has been the type of units most recently installed in the cabinet finishing industry. While there are many different types of equipment, valve and heat sink options available today, a multi-tower RTO with Structured Block Media continues to be a high percentage of our installed base.

I hope that this proposal suits your needs at this time; if not, or should you require any additional information, please do not hesitate to contact me either by phone at 734.459.6800 Ext. 596 or by e-mail at [dtyksinski@durrusa.com](mailto:dtyksinski@durrusa.com). We feel that if Dür was awarded this project, the finished project would be one both of our companies would be proud of.

Sincerely,  
**DÜRR ENVIRONMENTAL, INC.**

David Tyksinski  
Manager, After Market Projects

Dür Environmental, Inc.  
40600 Plymouth Road  
Plymouth, MI 48170-4297

Phone 734.459.6800  
Fax 734.459.5837



**MERILLAT**

**OCALA, FLORIDA**

**REGENERATIVE THERMAL OXIDIZER SYSTEM**

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**GENERAL**

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**DRAWINGS**

Process Flow, Typical

6379F001

General Arrangement, Typical

6379M001

This proposal contains confidential and proprietary information of Dürr Environmental, Inc. (DE) and is not to be disclosed to any third parties without the express prior written consent of DE. This proposal is submitted solely for the purpose of enabling the client to evaluate DE's bid on the project within and shall be returned to DE or destroyed if so requested by DE.



## 1.0 EXECUTIVE SUMMARY

Dürr Environmental, Inc. is pleased to propose a Regenerative Thermal Oxidizer (RTO) for the Merillat facility in Ocala Florida. The unit is a five-tower RTO with Structured block heat recovery media. Included is the main source ductwork, roof mounted duct stands and atmosphere / oxidizer dampers.

Dürr Environmental, Inc. is one of the largest suppliers of VOC control equipment worldwide. Dürr's capabilities are outlined in greater detail in section 2.0 of this proposal. In this section, the Dürr Group and its company relationships are explained along with the organization of Dürr Environmental. Scheduling, quality management, safety programs and training specific to this project are discussed.

Since Dürr Environmental is part of the Dürr Group of companies and has a presence in 26 countries, Dürr is uniquely qualified to work with Merillat on environmental projects. Dürr also has the staff necessary to execute a number of large projects at the same time and can self manufacture in the Plymouth shop (approximately 250,000 ft<sup>2</sup>) or through subcontract fabrication facilities.

Dürr Environmental also has a full AfterMarket Services group that can provide Merillat with all its after sales support: spare parts, emergency service, inspections and rebuilds and retrofits as the equipment ages. The AMS group can also evaluate existing equipment for energy consumption and can often retrofit the equipment to save utilities and/or increase capacity of existing systems.



## 2.0 GENERAL DESCRIPTION

### REGENERATIVE THERMAL OXIDIZER

A Dürr Regenerative Thermal Oxidizer (RTO) is a sophisticated high efficiency heat exchanger system that is designed for the destruction of volatile organic compounds (VOCs) through oxidation. The basic operation of the RTO is to accept solvent-laden air as it leaves the source, elevate the airstream's temperature to an oxidation temperature of approximately 1500°F, convert the VOCs to carbon dioxide and water vapor, and then recover most of the heat from the airstream prior to discharging it to atmosphere.

The RTO consists of a purification chamber (also referred to as a combustion chamber) which is located above five (5) energy recovery towers. The energy recovery towers are filled with a ceramic heat exchanger media.

The solvent-laden air enters the inlet header and is directed to one of the energy recovery towers through an inlet control valve. The air passes through the heat exchange media where it absorbs heat from the media. It enters the purification chamber very close to the oxidation temperature.

The oxidation process is completed in the combustion chamber. A burner system, controlled by a PID loop in the PLC logic, is used to provide the energy required to make up the heat loss of the process and complete oxidation. A high solvent concentration would provide enough thermal energy through auto-ignition for the process to be self-sustaining without requiring the burner for make-up energy. In this event, the burner will be disabled. Should the solvent load decrease and the combustion chamber temperature begin to drop, the burner will reignite. This will occur at a point above 1400°F. to eliminate the requirement for repurging.

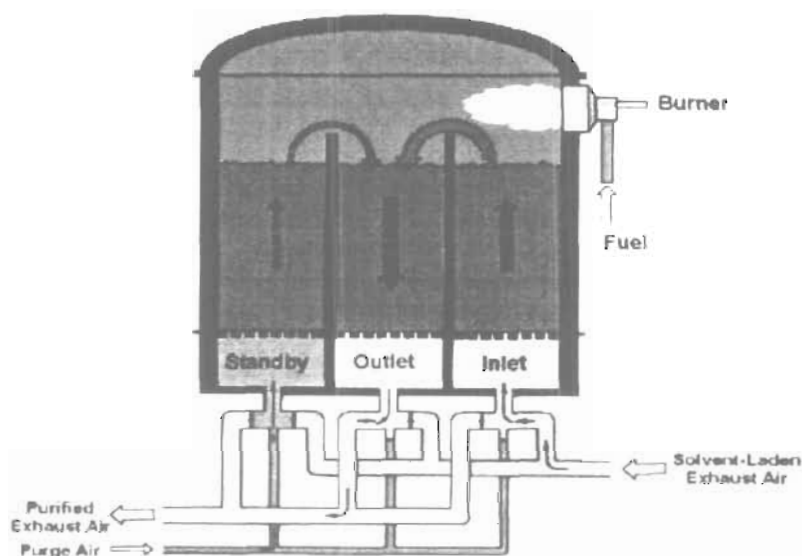
The operating temperature of the oxidizer depends upon the type and nature of the contaminants and the control regulations for the area in which the oxidizer is operating. The minimum temperature at which the unit is usually operated is that at which the contaminants are reduced to harmless water vapor or carbon dioxide, thus maintaining the level of contaminants exhausted within acceptable limits.

The cleansed air leaves the unit through the heat exchange media of an adjacent tower. The heat in the hot air is transferred for storage to the heat exchange media. The clean air then passes through the exhaust fan and is discharged to atmosphere. The temperature of the air as it leaves the unit is slightly higher than the temperature of the polluted air entering the RTO.

The RTO is equipped with a purge system which allows the evacuation of solvent-laden air trapped below the heat exchange media. The automatic purge cycle draws this polluted air from the inlet beds and heat exchange media back into the inlet of

the forced draft fans to be processed through the purification chambers that are on inlet. This feature insures continuously high destruction efficiency.

While two towers are on inlet, one tower is on purge and two towers are on exhaust, allowing the RTO to continuously process a polluted air stream.



RTO AIR FLOW DIAGRAM

## SCOPE OF SUPPLY - RTO

Dürr Environmental proposes to provide one (1) 120,000 scfm regenerative thermal oxidation system. The unit is designed to provide the guaranteed VOC destruction while operating at a combustion chamber temperature of 1,500°F. The unit will be provided with five (5) thermal energy recovery chambers.

### Thermal Energy Recovery Chambers

Thermal energy recovery is accomplished by alternating flow through a series of chambers. Each recovery chamber will be rectangular in configuration and fabricated from heavy gauge ASTM grade A36 carbon steel plate continuously welded, airtight construction. The external plate will be braced with structural angles adequate for the application temperatures and pressures.

Internal to each recovery chamber will be a media support grid fabricated from alloy steel suitable for the weight and temperatures involved. The grid is designed to



support the weight of the heat recovery media and allows for thermal expansion during operation of the unit.

The combustion chamber will be lined with ceramics fiber refractory. The lining is a soft, flexible fiber blanket module with integral stainless steel reinforcement and mounting components. It is capable of operation up to 1,800°F, and designed to provide a skin temperature of 160°F during normal operation.

### **Combustion Chamber**

VOC/HAP destruction is completed in the combustion chamber, which is gasketed and bolted to each of the thermal energy recovery chambers. The combustion chamber will be rectangular in configuration to provide an average retention time of 0.5 second, and fabricated from heavy gauge, ASTM grade A36 carbon steel plate continuously welded, and airtight construction. The external plate will be braced with structural angles adequate for the application temperatures and pressures. One refractory lined bolted door is provided for access to the combustion chamber.

The combustion chamber will be lined with ceramic fiber refractory. The lining is a soft, flexible fiber block module with integral stainless steel reinforcement and mounting components.

### **Heat Recovery Media**

Each recovery chamber will be filled with ceramic block media sufficient to provide greater than 93% thermal energy recovery (mass corrected). This efficiency is achieved by using a uniform bed of ceramic media on a fabricated support and air distribution grid. The grid is used as an air diffuser to assure even distribution while the ceramic media provides high heat transfer and low-pressure drop.

### **Inlet / Outlet Transition**

The inlet / outlet transition is designed to distribute the process exhaust gas and minimize the contaminant "slug" which occurs during valve cycling. The inlet / outlet transition is fabricated from heavy gauge carbon steel with reinforcement for the application temperatures and pressures. This transition is gasketed and bolted to the bottom of each thermal energy recovery chamber.

### **Structural Steel**

The heat energy recovery chambers are supported by a base grid, fabricated from grade A36 structural carbon steel in accordance with AISC specifications. The steel is cleaned, and receives one prime and one finish coat of paint in the shop prior to shipment.

### **Combustion System**

The oxidizer is provided with four (4) Maxon, or equal, natural gas burners designed to provide fast warm-up. The burners include factory assembled, Factory Mutual (FM) and Industrial Risk Insurers (IRI) approved gas train, combustion blower and required safeties.

### **Exhaust Stack**

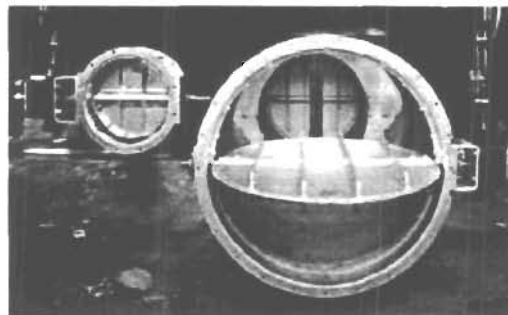
The oxidizer exhaust stack will be a free standing and fabricated from Cor-Ten steel complete with a 180° sampling platform and caged access ladder

### **Combustion Chamber Platform**

The combustion chamber will be provided with a platform for access to the burner and the combustion chamber door. The platform will be provided with walkway grating, 4" toe plate, bolt-on railings, and an access ladder (with cage, if applicable).

### **Flow Control Valves**

Three (3) hydraulically operated high performance butterfly style valves are included with each tower. The valve body and disc will be fabricated from carbon steel and connects the inlet / outlet transition with the inlet and outlet manifolds. These valves control airflow into and out of each chamber. Cycle rates are controlled in the PLC and preset to applicable operating standards. These settings can be easily modified during start-up to optimize thermal and destruction efficiencies.



The typical valve sequencing cycle for an odd tower RTO ranges from 120 seconds to 240 seconds. We historically see a pressure fluctuation of approximately +/- 0.25" for every 2.0" of inlet static. With an expected inlet pressure of -2.0" WC, we estimate a pressure fluctuation during valve cycling at +/- 0.25" WC.

### **Painting**

All mild steel will be primed and painted with one (1) coat of primer and one (1) coat of finish paint prior to shipment. All OEM equipment will retain their factory finish.



## **Freight**

The RTO system as quoted in this proposal includes freight to the job site. All components will be shipped F.O.B. destination, freight pre-paid.

## **Installation**

Installation by a Dürr erection crew or subcontractor is based on the following items:

- There are no overhead obstructions.
- There is clear access to at least two sides of the site.
- There are no site constraints (i.e. drug testing, fire watch, safety orientations, etc.)
- The work will be performed by a non-union contractor.
- The work will be done on a straight time labor rate based on an eight hour day, five days a week (Monday through Friday), forty hours a week total. Any work required to be performed on Saturdays, Sundays, holidays or on an overtime basis will be to Purchaser's account. Process changeover from the existing flare abatement system is excluded from this requirement. Any costs due to delays beyond Dürr's control will be to Purchaser's account.





### 3.0 RESPONSIBILITY MATRIX

	Work Item	Owner	Dürr	Remarks
<b>1.0</b>	<b>General Conditions</b>			
1.1	Building permits	X		
1.2	EPA permits	X		
1.3	Taxes	X		
1.4	Engineering certifications	X		If required
1.5	Labor relations		X	
1.6	Local ordinances		X	
1.7	Bonding			NA
<b>2.0</b>	<b>General Site Work Conditions</b>			
2.1	Site office	X		Including phone access
2.2	Temporary field office		X	If required
2.3	Temporary utilities	X		Temp Sanitary Facilities by Dürr
2.4	Daily job site clean-up		X	
2.5	Construction openings	X		
2.6	Building alterations, penetrations, demolition and disposal work	X		
2.7	Storage area on-site	X		Within 100'-0"
2.8	Storage area off-site			NA
2.9	Main utilities	X		
<b>3.0</b>	<b>Civil</b>			
3.1	Footings and foundations	X		
3.2	Structural support steel		X	
3.3	Soil testing, 3,000 psf @ 3 ft depth minimum	X		Uncontaminated soil
<b>4.0</b>	<b>Mechanical</b>			
4.1	Gas piping	X		To gas train
4.3	Hydraulic piping		X	
4.4	City water piping	X		If required
4.5	Fire protection	X		If required
<b>5.0</b>	<b>Electrical</b>			
5.1	Substation	X		
5.2	Bus-duct (power – 480V / 3 Phase / 60 Hertz)	X		To power distribution panel
5.3	Temporary lighting		X	For installation
5.4	Interface process equipment (Process ready signal wired to MCP)		X	Source valves
<b>6.0</b>	<b>Abatement Equipment</b>			
6.1	Engineering and fabrication of the abatement equipment as described in Technical Section		X	
6.2	All components shipped F. O. B. destination, freight prepaid		X	
6.3	Field engineering		X	
6.4	Installation		X	RTO and ductwork
6.5	Installation supervision		X	RTO and ductwork
6.6	Wiring		X	RTO and source ductwork
6.7	Piping		X	RTO only
6.8	Start-up		X	RTO and source systems
6.9	Stand-by assistance		X	5 – 8 hour days
6.10	Operator training		X	
6.11	Abatement equipment area lighting	X		
6.12	Source ductwork system to inlet flange of abatement equipment		X	
6.13	Equipment specifications	X		
6.14	General specifications	X		
<b>7.0</b>	<b>Plant Acceptance</b>			
7.1	Performance testing	X		
7.2	Compliance testing	X		
7.3	Spare parts		X	List only
7.4	Maintenance and operating manuals		X	3 sets
7.5	Record mechanical and electrical drawings		X	3 sets



**4.0 CAPITAL COSTS, PAYMENT TERMS / SCHEDULE, AND OPERATING COSTS**

**CAPITAL COSTS**

**BASE BID (BUDGET)**

Dürr Environmental, Inc. will provide a VOC abatement system consisting of one (1) 5 Tower (98% destruction efficiency) Regenerative Thermal Oxidizer System, rated of 120,000 scfm at 90°F. Scope of work as described in the Technical Specifications and Responsibility Matrix of this proposal. Including source ductwork, roof mounted stands, face by-pass dampers for 23 sources

**\$3,800,000**

Additional amount for 99% Destruction Efficiency

**\$103,000**

Additional source ductwork required if the RTO is located away from the building (Approx. 120' of 82" Ø duct and trestle to bridge roadway)

**\$170,000**

Dürr Environmental, Inc.

By: \_\_\_\_\_  
David M. Tyksinski  
Regional Sales Manager

By: \_\_\_\_\_  
Frank Fenbert  
Applications Engineer



## **PAYMENT TERMS AND PAYMENT SCHEDULE**

- 25% due upon receipt and acceptance of purchase order
- 25% invoiced with drawing submittal, due net 30 days
- 45% due upon equipment ready for shipment, due net 30 days
- 5% due after successful performance testing.
  - OR - Thirty days after equipment is made operational.
  - OR - If due to delays beyond Dürr's control, 90 days after final material shipment, **which ever occurs first.**

## **CONDITIONS OF SALE**

This proposal is based on Dürr Environmental Inc.'s General Terms and Conditions of Sale, which are attached, and will form the basis of a commercial agreement.

Dürr Environmental, Inc.'s acceptance of any order or contract (commercial agreement) resulting from this proposal is subject to and expressly contingent upon the prior credit review and approval of Buyer and/or Buyer's client by Dürr's Finance department.

## **BID VALIDITY**

This bid will remain valid for a period of sixty (60) days.



**ESTIMATED OPERATING COSTS**

<b>OPERATING STATUS</b>	<b>PROCES FLOW TO RTO SCFM</b>	<b>TOTAL FLOW SCFM</b>	<b>VOC LB/HR</b>	<b>ELECTRIC COST \$/HR</b>	<b>GAS COST \$/HR</b>
NO SOLVENTS	PROCESS MAXIMUM FLOW (116,000)	116,000	0	\$37,89	\$143,43
SOLVENTS	116,000	116,000	100	\$37.57	\$132.46

**OPERATING COST ASSUMPTIONS**

Maximum Solvent Loading: lbs/hr @ 15,000 Btu/lb  
Inlet Static Pressure -2 " w.c.  
Inlet Temperature 90 °F (average)  
Electrical Costs \$0.09 KWh  
Nat Gas Costs \$9.00 Mcf (1000Btu/cf)

Note: Operating consumptions include heat and radiation losses.



## 5.0 CLARIFICATIONS

### **PRICING**

The following items are included in this quotation:

- One (1) complete 5-Tower regenerative Thermal Oxidizer installed and start-up
- Main source ductwork from the RTO to the stain line # 2, including bypass dampers at each of the 23 sources (wiring from the main panel to the source valves)
- Battery limit wiring and piping of the RTO system

### **GENERAL**

Owner will be responsible for any costs associated with owner related schedule modifications except those agreed upon by the owner (or its representatives) and Dürr Environmental, Inc.

Unless otherwise stated elsewhere in this proposal, Buyer certifies that there are no acids or acid-generating compounds, e.g., halogenated or sulfonated compounds, among others, or particulate or particulate-generating compounds, e.g., silicon-bearing compounds, among others.

No taxes are included. Any taxes incurred will be charged to the purchaser at cost.

### **EQUIPMENT**

The following items are not included in the above listed pricing:

- Added source ductwork design for (hurricane standards) if required
- Roof penetrations and flashing for the source and main ductwork
- Freight (Pre-pay and add)
- Additional structure or roof supports for the source ductwork
- RTO pad or control room
- 480VAC power to the control panel and VFD
- Source interlock wiring between the RTO and the source control panels

### **SOUND LEVEL**

The sound power levels of the RTO components are designed for 85 dBA at 5 feet, free field, test block conditions. Noise variables in conjunction with actual installation surroundings cannot be predetermined. Based on the advice of sound experts, we recommend that sound power levels for the system be determined after the equipment is installed and operating. At that time, if the noise level from the system, or as amplified by harmonics of other equipment exceeds the site requirements Dürr



Environmental, Inc. will furnish the necessary sound absorption materials at additional cost to purchaser.

#### **DRAWINGS**

General arrangement and layout drawings will be furnished within six (6) weeks after receipt of order.

Any additional costs or fees incurred for preparation of special drawings or data required by purchaser and state or local agencies will be paid by purchaser.



## 6.0 PROJECT SCHEDULE

Dürr will furnish detailed project schedule to meet the customer's needs after receipt of purchase order.

### TYPICAL MILESTONES

Delivery	22-24 weeks after receipt of purchase order
Installation	4-6 additional weeks
Start-Up	3-4 additional weeks



## 7.0 PERFORMANCE GUARANTEE

### VOCs

Subject to the General Provisions, below, Dürr guarantees that when the Inlet VOC concentration is above 700 ppm<sub>v</sub> as methane (C1), the Regenerative Thermal Oxidizer (RTO) will destroy or convert at least 98% of the incoming gaseous, non-methane volatile organic compounds (Inlet VOC). When the Inlet VOC concentration is below 700 ppm<sub>v</sub> as methane (C1), the outlet non-methane VOC concentration will not exceed 14 ppm<sub>v</sub> as methane(C1).

### GENERAL PROVISIONS

The following General Provisions will apply to all of the above guarantees:

- a) The RTO will be installed (if applicable), operated and maintained by Buyer in accordance with Dürr instructions. This will include replacing of consumable or replaceable components by Buyer, as required.
- b) Buyer agrees to operate the system within the system design data as specified in this proposal.
- c) Compliance testing will be performed at the maximum Inlet VOC loading specified in this proposal.
- d) Performance results will be based on three test samples taken consecutively. The reported result will be the arithmetic average of the three tests.
- e) The performance guarantees apply only during normal operation, not during any maintenance procedures.
- f) All performance tests will be arranged and paid for by Buyer. Dürr will be notified in writing 14 days prior to the tests.
- g) EPA Method 25A will be used to determine VOC performance.
- h) Methane is excluded from outlet emissions.

If Dürr fails to meet the Performance Guarantee, Dürr will be given reasonable time to investigate and take corrective action within the scope of this contract.





## 8.0 MATERIAL / WORKMANSHIP WARRANTY

The system is provided with a one-year material and workmanship warranty, which is detailed in the attached General Terms and Conditions of Sale. Major items covered will be the oxidizer vessel, heat recovery media, insulation and inlet/outlet valves.



**9.0 FIELD SERVICE RATES**

From the hour the Seller's representative leaves the basing point and including the hour of Seller's representative's return to its basing point, payment shall be made by Buyer to Seller at the rates listed below.

A workday is defined as any day, Monday through Friday, whether actual work is performed or not. Also, any travel time to or from the base point is considered a workday and payment shall made in accordance with the applicable workday rates defined herein.

If the service is non-warranty, an invoice for service will be sent based on the following rates:

		<b>US, Canada Mexico Rates</b>
<b>Field Service</b>	Straight Time	\$120/hr.
	Overtime	\$150/hr.
	Sun/Holiday	\$180/hr.
	Travel Time	\$100/hr.

\*\* Billed in ¼ hour segments, with 1 hour minimum, unused portion credited against future support.

The minimum workday charge will be based on a full eight (8) hour day.

**EXPENSES**

**TRANSPORTATION**

Travel by air will be Coach Class for US, Canada and Mexico, Business Class for International. Round trip transportation to and from the job site location will be billed at cost plus a ten (10)% percent processing fee.

**ROOM, BOARD AND LOCAL TRANSPORTATION**

Meals, living expenses, such as lodging, laundry, etc., and local car/equipment rental will be billed at cost plus a ten (10)% percent processing fee.

**SUBCONTRACTOR CHARGES**

Charges from Seller's subcontractors will be billed at cost plus a fifteen (15)% percent processing and administration fee.



## 10.0 TRAINING

Dürr will conduct a training program that is organized and designed specifically to meet the needs of the plant personnel responsible for operating and maintaining the new abatement system.

Both on-site training and classroom training will be utilized. Approximately one-half of the training time is classroom and one-half hands-on training. One (1) training class up to eight (8) hours in length, to be held at the customer's site during normal business hours of 8:00 a.m. to 5:00 p.m., has been included in our pricing.

### **GENERAL OUTLINE**

- A. Dürr will provide system training of operating, maintenance, and supervisory personnel at the plant. This training will include operating and maintenance instructions.
- B. Training for general purpose equipment is not included. Operating and maintenance personnel are expected to have knowledge from existing operations in the following areas:
  - Fans
  - Gas Trains
  - Programmable Controllers
  - Motors
  - Temperature Controllers
  - Dampers, Damper Actuators
  - Hydraulics/Pneumatics

### **TRAINING SPECIFICS**

- A. Dürr training is conducted by experienced engineers familiar with the project.
- B. Training for the abatement system will utilize the following outline:

#### **Mechanical Class**

- Introduction to the equipment and its location
- Discussion of the equipment's purpose
- Detailed description of the design and theory of operation using the construction flow diagrams
- Operating procedures
- Shutdown procedures
- Safety considerations
- Maintenance procedures
- Troubleshooting



### **Mechanical Field**

- Introduction to all component parts
- System start-up
- System shutdown
- System monitoring

### **Electrical Class**

- Description of equipment and panel locations
- Review of mechanical system operation
- Detailed description of sequence of operation
- Discussion of alarms and proper response to alarms
- Start-up and shutdown procedures
- Safety
- Troubleshooting

### **Electrical Field**

- View location of all field devices
- System start-up
- System shutdown
- System monitoring

## **STANDARD TRAINING MATERIALS**

Prior to each training class, each employee will be given a written Employee Training Manual that will contain all of the information that will be discussed in class. Visual aids such as drawings, electrical prints, and overhead projection transparencies may be utilized.



**11.0 STANDARD TERMS AND CONDITIONS OF SALE**

Please see the attached.



## DÜRR STANDARD CONDITIONS OF SALE

DÜRR shall provide the materials, equipment, and where applicable, the labor and services described in this proposal strictly in accordance with, and subject to, the following terms and conditions which are part of the contract between DÜRR and Purchaser and which shall be deemed to have been accepted by Purchaser in the event Purchaser either issues a purchase order covering the work or otherwise authorizes DÜRR, in writing or orally, to perform the work.

**1.0 TERM OF PROPOSAL:** This Proposal is subject to acceptance by Purchaser within sixty (60) days from the proposal date.

**2.0 PROPRIETARY & CONFIDENTIAL MATERIALS:** All drawings, patterns, specifications and information included in DÜRR's proposal or contract, and all other information otherwise supplied by DÜRR as to design, manufacture, erection, operation and maintenance of the equipment, shall be the proprietary and confidential property of DÜRR and shall be returned to DÜRR at its request. Purchaser shall have no rights in DÜRR's proprietary and confidential property and shall not disclose such proprietary and confidential property to others or allow others to use such property, except as required for the Purchaser to obtain service, maintenance, and installation for the equipment purchased from the DÜRR. This clause shall survive the termination of this contract and be in effect as long as the Purchaser has possession of any of the DÜRR's proprietary or confidential property. Additionally, should Purchaser's and/or End User's use of the equipment provided hereunder create VOC credits under any applicable federal or state laws or regulations, including, without limitation, the Clean Air Act, such credits shall be the sole and exclusive property of DÜRR, and Purchaser and/or End User hereby agree to provide at DÜRR's expense any and all assistance reasonably requested in order to determine and confirm the amount of such credits available to DÜRR. Purchaser, if not the End User, agrees to incorporate in any agreement with an End User, a provision protecting DÜRR's ownership of such credits.

**3.0 TAXES:** Sales Tax, Personal Property Tax, Use Tax, Excise Tax, or other Taxes imposed by the Federal, State or municipal Authority and incurred by DÜRR through performance on the contract shall be to the Purchaser's account and are in addition to the prices quoted in the proposal. DÜRR shall not be responsible for any additional cost associated with the Purchaser's tax exemption certificate and the governing body's acceptance of same.

**4.0 DELIVERY:** Title to all equipment shall pass to Purchaser at the FOB point or points of shipment and risk of loss will thereafter be borne by Purchaser. DÜRR shall retain a security interest in any equipment not paid for in full. If the Purchaser declines or is unable to take delivery at the time(s) specified in the proposal or contract, DÜRR will have the equipment stored for Purchaser at Purchaser's risk and account, and the materials shall be considered "shipped." Purchaser shall pay storage, handling and rehandling charges and continue to make payments according to the payment terms contained herein.

**5.0 SUSPENSION:** In the event Purchaser suspends the execution of work on this contract, Purchaser shall reimburse DÜRR for all costs incurred by DÜRR as a result of such suspension, including, without limitation, all borrowing and opportunity costs. In the event the suspension exceeds 180 days in duration, in addition to being entitled to full reimbursement of costs as aforesaid, DÜRR shall have the unqualified right to cancel the unfinished portion of the contract without liability to Purchaser of any kind. Should the contract be canceled the provisions of Article 15.0 shall apply.

**6.0 CHANGES & EXTRA WORK:** Purchaser, by written order accepted by DÜRR, may make reasonable changes in the scope of the work subject to equitable adjustments in the Contract price and schedule, including an allowance for increased overhead and profit. DÜRR is not obligated to incur any expense or do any work in excess of that reasonably anticipated unless the Purchaser issues a written order for such expense or work with mutually acceptable terms and conditions.

**7.0 MATERIAL/WORKMANSHIP WARRANTY:** DÜRR warrants that all materials and equipment which it manufactures and furnishes and work provided will be free from defects in materials and workmanship for a period of twelve (12) months after initial operation or eighteen (18) months after the first item is shipped, whichever is sooner. Initial operation is defined as the date of first burner ignition of the equipment.

DÜRR's sole obligation hereunder is to repair or replace F.O.B. point of shipment, any item which after DÜRR's inspection proves to be defective, provided that DÜRR shall not be obligated for any removal, shipping, or reinstallation costs.

DÜRR's obligations hereunder are subject to the following conditions:

- a) Receipt from Purchaser within the warranty period of prompt written notice of any defect containing a full description thereof.
- b) Purchaser shall not without DÜRR's approval have attempted to correct the defect.
- c) Purchaser shall have installed (if applicable), operated and maintained the equipment strictly in accordance with DÜRR's operating and maintenance instructions.
- d) The defect has been caused solely by faulty materials or workmanship for which DÜRR is responsible, and is not due to such things as erosion, corrosion, or deterioration resulting from the manner in which the equipment is operated.

To the extent that the materials and equipment furnished consist of products manufactured by other parties, such manufacturer's warranty is hereby assigned to Purchaser, and DÜRR's responsibility with respect to any such products shall not extend beyond the manufacturer's warranty with respect thereto.

**8.0 PATENT WARRANTY:** DÜRR shall defend at its expense any suit or proceeding brought against Purchaser based on any claim that the equipment covered herein, except for equipment/material manufactured and/or designed to Purchaser's specifications, infringes any United States patent issued as of the date of this proposal and pay any court imposed damages and costs finally awarded against Purchaser, but not to exceed the amount theretofore paid to DÜRR by Purchaser hereunder provided:

- a) DÜRR is promptly notified by Purchaser in writing of such claim; and
- b) DÜRR is given full authority, information, and assistance by Purchaser which DÜRR deems necessary for the conduct of such defense.

DÜRR shall have the right and option at any time in order to avoid such claims or actions and minimize potential liability to:

- a) procure for the Purchaser the right to use the equipment; or
- b) modify the equipment so that it no longer infringes; or
- c) replace the equipment with non-infringing equipment.

**9.0 PERFORMANCE GUARANTEE:** DÜRR's sole guarantees are those contained in its proposal to Purchaser. These guarantees are contingent upon the correctness and accuracy of the information provided by the Purchaser and are based upon the operating conditions specified in DÜRR's proposal. These guarantees will be deemed satisfied by successful completion of

## DÜRR STANDARD CONDITIONS OF SALE



performance tests in accordance with applicable standard procedures as specified in the proposal and in effect on the date of this proposal. Performance tests shall be conducted by the Purchaser, (unless otherwise specified in DÜRR's proposal), and witnessed by DÜRR within ninety (90) days of the date of initial operation of the equipment. In the event the said tests are not conducted within ninety (90) days of initial operation or within six (6) months of shipment, whichever is earlier, and through no fault of DÜRR, the equipment shall be deemed accepted by the Purchaser and in compliance with all contractual requirements. In the event the equipment fails to meet the contract performance guarantees as verified by certified test results, DÜRR will supply, at its sole option, repaired or replacement parts pursuant to the delivery terms of the proposal subject to the limitations stated in Article 13.0.

**10.0 IMPLIED WARRANTIES/GUARANTEES DISCLAIMER:** THE WARRANTIES/GUARANTEES FURNISHED BY DÜRR, AS EXPRESSLY INCLUDED HEREIN, CONSTITUTE DÜRR'S SOLE OBLIGATION HEREUNDER AND ARE IN LIEU OF ANY OTHER WARRANTIES OR GUARANTEES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

**11.0 DISCLAIMER OF CONSEQUENTIAL DAMAGES:** DÜRR shall not be liable to Purchaser for indirect or consequential damages including, but not limited to, loss of profits or revenue, loss of use of equipment, costs of replacement power, or product, additional expenses incurred in the use of equipment or facilities, or the claims of third parties. This disclaimer shall apply to consequential damages based upon any cause of action whatsoever asserted against DÜRR, including one arising out of any Breach of Warranty, Express or Implied; Guarantee; Products Liability, Negligence; Tort; or any other theory of liability.

**12.0 PURCHASER'S NEGLIGENCE & INSURANCE:** DÜRR shall not be responsible for losses or damages arising out of the negligence of the Purchaser, its employees, agents or architects or those of third parties whom DÜRR is not responsible, or losses for which the Purchaser has agreed to provide insurance. In the event that both DÜRR and the Purchaser are negligent and the negligence of both is approximate cause of the accident, then in such event each party will be responsible for its portion of the liability or damages (excluding consequential or indirect damages which are disclaimed by DÜRR) resulting therefrom equal to such party's comparative share of the total negligence.

**13.0 LIMITATION OF LIABILITY:** In no event will DÜRR's liability to the Purchaser for any and all claims, including property damage and personal injury claims, allegedly resulting from breach of contract, tort, or any other theory of liability exceed the amount of the initial purchase price paid to DÜRR.

**14.0 DELAYS & DAMAGES - FORCE MAJEURE:** In the event of delays or damages due to conditions beyond DÜRR's reasonable control, including, but not limited to Acts of God, Acts of Purchaser, or Purchaser's customer or of other contractors employed by Purchaser, Acts of Civil or Military Authority, priorities, fire, strikes, floods, epidemics, quarantine restrictions, war, riot, delays in transportation, car shortages, or DÜRR's inability to obtain necessary labor, materials, or manufacturing facilities, the Contract dates shall be extended by an equitable period of time and DÜRR shall be entitled to an equitable adjustment in the contract price.

**15.0 CANCELLATION:** Purchaser's cancellation of the contract is subject to a cancellation charge of 10% of the total price of the contract, plus DÜRR's actual expenses and expenses to which DÜRR has become committed for

fulfillment of the contract before notice of cancellation is received.

**16.0 PAYMENT:** Unless otherwise agreed, payment shall be as outlined in the proposal and payments shall be made within thirty (30) days of presentation of an invoice. Payments not received by the due date shall be subject to a monthly interest charge at the rate of 2% per month or the maximum allowed by law, whichever is less, due and payable until the payment is received.

In the event a retention value is required and agreed, it shall accrue interest at the rate of 1% per month on the outstanding balance until exchanged for a letter of credit or paid to DÜRR. DÜRR retains the unqualified option to provide Purchaser with a letter of credit in lieu of retention at any time during the performance of the contract.

**16.1 DEFAULT IN PAYMENT:** A. If any payment due to DÜRR is more than thirty (30) days past due, DÜRR shall have the right at its sole option to accelerate the payment of all outstanding amounts, including, but not limited to, amounts previously retained pursuant to the agreement, by notifying Purchaser in writing that all outstanding amounts are immediately due and presenting Purchaser with an invoice for said amount. DÜRR shall also have the right in such event to discontinue all work on the project without incurring any liability to Purchaser for such action. B. In the event the total aggregate amount of delinquent payments exceeds at any point during the term of the agreement ten (10%) percent of the total contract amount, Purchaser shall provide at DÜRR's request, additional collateral, including but not limited to irrevocable letters of credit, sufficient to secure payment of all contract amounts. C. The foregoing remedies of DÜRR are in addition to all other remedies DÜRR may have at law or in equity, including but not limited to the right to obtain liens on Purchaser's assets through legal or equitable proceedings.

**16.2 SECURITY AGREEMENTS:** A. Purchaser hereby grants to DÜRR a security interest in the equipment and/or materials sold hereunder to secure the purchase price of same. Purchaser shall execute any financing or other statements or filings which in DÜRR's sole judgment are necessary or appropriate to evidence or perfect such security interest, which shall thereafter be filed by Purchaser with the appropriate recording officer. This contract shall constitute the security agreement between the parties and is intended to and shall afford the DÜRR all rights of a secured party under Article 9 of the Uniform Commercial Code. B. Until Purchaser has paid the full amount due and owing for any equipment or materials purchased hereunder, Purchaser shall be prohibited from transferring such equipment or materials to any creditor of Purchaser other than DÜRR, unless DÜRR provides its prior written consent to such transfer, such consent not to be unreasonably withheld. C. In the event Purchaser becomes insolvent, files for bankruptcy, or goes into receivership or liquidation, Purchaser agrees to use its best efforts and to provide all assistance requested by DÜRR in order to secure DÜRR's position as a preferred creditor with respect to all amounts due to DÜRR.

**16.3 PAYMENT OF RETAINED AMOUNTS:** A. If this contract permits Purchaser to withhold final payment, and acceptance is not based upon performance tests, such final payments shall be due and payable within thirty (30) days after the equipment is ready for operation. B. If such deferred payment is contingent upon tests and such tests are delayed through no fault of DÜRR for more than thirty (30) days after the equipment is first ready for operation, final payment shall be due and payable upon expiration of such thirty (30) day period.



## DÜRR STANDARD CONDITIONS OF SALE

**17.0 PRICE ADJUSTMENT:** Except as noted in DÜRR's Proposal, the Contract price is firm for delivery and installation (if applicable) in accordance with the schedule therein. In the event the schedule is modified due to acts of Purchaser or conditions beyond the control of DÜRR and DÜRR's cost escalate, an equitable adjustment to the contract price shall be granted to DÜRR.

**18.0 DIFFERING CONDITIONS:** In the event DÜRR is installing the equipment and any of the conditions of the construction site at that time of erection differ materially from those evident at the time of DÜRR's pre-bid site visit (if applicable), Purchaser's representations, sub-surface conditions (if applicable), and conditions ordinary to similar projects, then any additional costs occasioned by such differing site conditions shall be subject to equitable adjustment to the Contract price and schedule.

The following, except as specifically waived in writing by DÜRR shall be available to DÜRR throughout the duration of the work at no cost to DÜRR.

- a) A safety buffer zone shall be established nominally fifty (50) feet all around the base of the structure which will be maintained free and clear of all work, contractors, equipment and personnel.
- b) An adequate construction staging, laydown and material storage area for DÜRR's exclusive use shall be available adjacent to the safety buffer area. This area and the safety buffer shall be graded, leveled, well drained, even with the top of foundation and be suitable for delivery vehicles and DÜRR's equipment in all weather conditions.
- c) All weather access roads shall be made available and maintained by Purchaser from a main highway and from the railroad sidings (if applicable) to DÜRR's area and the location of construction.
- d) Purchaser's rail siding, (if applicable), shall be available to DÜRR with 300 feet, by the normal routing, from DÜRR's area.

In the event activities or operations at the site by parties other than DÜRR interfere with the execution of the work, an equitable adjustment shall be made to the Contract Price and schedule.

**19.0 UNLOADING & STORAGE:** DÜRR may have certain materials or equipment delivered to the construction site prior to his arrival and mobilization (if applicable). Purchaser shall receive, unload and store such materials and equipment.

**20.0 PERMITS & LICENSES:** DÜRR shall obtain and pay for all licenses and permits required to be obtained in his name to do business within the political jurisdiction containing the construction site. Purchaser will obtain and pay for all other licenses and permits, including any required to be obtained in the Owners name, any required for the construction of permanent structures, and all pollution control, zoning, Federal or regional air, navigation or building permits and all other permits and licenses related to the physical work.

**21.0 OSHA - FEDERAL, STATE, & LOCAL:** DÜRR agrees to comply with the Federal OSHA requirements in effect as of the date of this proposal relative to the work performed hereunder. DÜRR's sole responsibility is limited to modification or replacement of the equipment cited as violating such standards. OSHA requirements with respect to noise are specifically excluded. Where state, local or Purchaser's safety and health requirements differ from the Federal OSHA requirements, modifications or changes in design to meet such requirements will be incorporated at Purchaser's request. Additional costs arising from such requests and from erection procedures required by state, local or Purchaser's safety and health regulations which deviate from Federal OSHA requirements will be for Purchaser's account.

**22.0 ASSIGNMENT/SUBCONTRACTS:** DÜRR retains the right to assign this contract to any subsidiary or affiliated company of DÜRR without the Purchaser's prior approval. All other assignments by either DÜRR or Purchaser require the prior written consent of the other party. DÜRR may subcontract any portion of the work.

**23.0 HAZARDOUS MATERIALS:** If the Purchaser's facilities contain hazardous materials, including asbestos bearing materials and any such materials are encountered, DÜRR shall have no obligation to remove or remediate them in the absence of a separate agreement which includes separate consideration to DÜRR for such work. If DÜRR or any of its subcontractors is required to perform work within or immediately adjacent to any facilities that are determined to contain hazardous materials and/or asbestos, and the said work must be interrupted to allow for the remediation or removal of such materials by others, DÜRR shall be entitled to any and all costs and other expenses associated with such interruption in work. Purchaser shall fully defend, hold harmless and indemnify DÜRR and its agents from and against any claim arising out of exposure to such hazardous and/or asbestos bearing materials.

**24.0 HEALTH AND SAFETY:** DÜRR shall not be responsible for health or safety programs or precautions related to Purchaser's activities or operations, Purchaser's other contractors, the work of any other person or entity, or Purchaser's site conditions. DÜRR shall not be responsible for inspecting, observing, reporting or correcting health or safety conditions or deficiencies of Purchaser or others at Purchaser's site, and Purchaser agrees to indemnify, hold harmless and defend DÜRR against any claims arising out of such conditions or deficiencies. So as not to discourage DÜRR from voluntarily addressing health or safety issues while at Purchaser's site, in the event DÜRR does not address such issues by making observations, reports, suggestions or otherwise, it is understood and agreed that DÜRR shall nevertheless have no liability or responsibility arising on account thereof.

**25.0 OTHER CONTRACTORS:** DÜRR shall not have any duty or authority to direct, supervise or oversee any contractors of Purchaser or their work or to provide the means, methods or sequence of their work or to stop their work. DÜRR's services and/or presence at a site shall not relieve others of their responsibility to Purchaser or to others. DÜRR shall not be liable for the failure of Purchaser's contractors or others to fulfill their responsibilities, and Purchaser agrees to indemnify, hold harmless and defend DÜRR against any claims arising out of such failures.

**26.0 DISPUTES:** In the event of a dispute arising hereunder, the parties will confer and attempt to amicably resolve the dispute. If after good faith negotiation, the parties cannot reach agreement, then the matter will be finally resolved in any court having jurisdiction.

**27.0 CONTRACT INTERPRETATION:** If any of the provisions of these Standard Conditions of Sale (including statements made in the proposal) conflict with any provisions in the Purchaser's documents, the former shall govern unless DÜRR expressly agrees to the contrary in writing. Any contract resulting from this proposal shall be construed, and the legal regulations of DÜRR and the Purchaser shall be determined in accordance with the laws of the State of New Jersey, U.S.A.

All communications written and verbal, between the parties hereto with reference to the subject of this proposal prior to the date of its acceptance are merged herein, and this proposal, when duly accepted and approved, shall constitute the sole and entire agreement and contract between the parties as to the subject matter



## DÜRR STANDARD CONDITIONS OF SALE



thereof. No change in or modifications of said agreement shall be binding upon the parties or either of them, unless the changes or modifications shall be duly accepted in writing by the Purchaser and approved in writing by DÜRR.

**28.0 SEVERABILITY:** Should any part of this Agreement be declared invalid or unenforceable, such decision shall not affect the validity of any remaining portion, which remaining portion shall remain in full force and effect, and DÜRR shall have the right to replace the part declared invalid or unenforceable with a provision which serves as much as validly possible the same commercial purpose as the part determined to be invalid or unenforceable.



Jeb Bush  
Governor

# Department of Environmental Protection

Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Colleen M. Castille  
Secretary

January 12, 2005

John Ray  
Vice President  
Enterprise Florida  
The Atrium Building, Suite 201  
325 John Knox Road  
Tallahassee, Florida 32303

Dear Mr. Ray:

I am in receipt of your correspondence dated January 7, 2005, regarding the Merillat facility (facility) in Ocala. I look forward to meeting with you next Wednesday to discuss Enterprise Florida and any concerns it has regarding this facility. It is unfortunate that you were not able to hear the discussion regarding Merillat's approach to PSD requirements at this and other facilities that transpired after you left the December meeting. I would like to discuss this further when we meet, as it appears that the company has faced these same issues at its facilities in other states. I would also appreciate a discussion about how our offices can ensure any PSD permitting issues are adequately addressed early in current and future business recruitment efforts.

In addition to a request for a meeting, the January 7, 2005 letter raised several concerns that warrant a response before our discussion next week. Let me assure you that the Department of Environmental Protection (DEP) has and will continue to handle Merillat's permit application in a straight-forward and professional manner. I believe it is imperative to see a facility and meet company representatives face-to-face when handling such important projects. As I stated at the beginning of the December meeting, the reason I and my staff requested an in person meeting at the facility was to observe the Merillat process first-hand and begin working through pending issues with Mr. Olszewski, Mr. Tift and Mr. Cohn in person.

I also want us to be "on the same page" regarding the status of Merillat's pending permit application. As I stated at the outset of the December meeting, the DEP has **not** yet reached a conclusion regarding the applicability of PSD or made a determination of "phased project". As you may know from other successful Enterprise Florida projects, it is common and, often times, necessary in the PSD application review process to request additional information from a permit applicant. In this case, the DEP has requested additional information from

*"More Protection, Less Process"*

*Printed on recycled paper.*

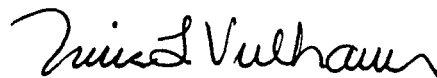
Page 2  
John Ray  
Enterprise Florida

Merillat regarding the timing and background of the initial project as well as other aspects of the pending application. The questions are not intended to be accusatory. As was explained at the meeting, the DEP is simply fulfilling its legal obligations for implementing the PSD program [See DEP rule 62-212.400(2)(g), Florida Administrative Code, its federal counterpart at 40 CFR 52.21]. It is also important to note that US EPA raised similar questions via email correspondence dated December 10, 2004.

The DEP is aware of the importance of this project to Merillat and Enterprise Florida and is working in an expeditious manner to fully and fairly evaluate this application. Please keep in mind that the DEP mission statement is "more protection, less process". The DEP is balancing both of these objectives as it evaluates Merillat's application. Since the December meeting, I and my staff have been in contact with Mr. Olszewski and Mr. Cohn on several occasions regarding their response to our questions and possible permitting scenarios. It is my understanding that Merillat will be providing a comprehensive response to the DEP and EPA's requests for additional information in the very near future. Once we have had an opportunity to review the submittal, the DEP will schedule a meeting with Merillat to discuss the status of the application.

I hope this information is helpful and I look forward to meeting with you next week.

Sincerely,



Trina L. Vielhauer  
Chief  
Bureau of Air Regulation

Mike Cooke  
Al  
Cindy Murkey



# Department of Environmental Protection

Jeb Bush  
Governor

Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Colleen M. Castille  
Secretary

November 8, 2004

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Michael Stickles, Plant Manager  
Merillat Corporation  
1300 Southwest 38th Avenue  
Ocala, Florida 34474

Re: Request for Additional Information  
Ocala Facility Expansion Project  
File Nos. 0830137-003-AC (PSD-FL-347), 0830137-004-AV

Dear Mr. Stickles:

The Department is in receipt of your PSD application. However, in order to continue processing the application, we will need the additional information below. Should your response to any of the below items require new calculations, please submit the new calculations, assumptions, reference material and appropriate revised pages of the application form.

The Department understands that despite having submitted a PSD application, the company still believes the project does not trigger PSD because the modification will emit less than 250 tons per year of volatile organic compounds (VOC). The Department requires additional information to determine if and/or when this facility may have triggered PSD. The specific requests for additional information are set forth below.

## **I. Project Description**

Based on our review of the facts, it appears that Merillat accepted a limit of 249 TPY of VOC on the initial project to avoid PSD and a determination of best available control technology (BACT). The physical plant constructed appears capable of producing sufficient product to emit more than 249 TPY of VOC but for the limitation. A relaxation of restrictions on pollutant capacity would subject the facility to PSD and a BACT determination "as though construction had not yet commenced on it." [Rule 62-212.400(2)(g), F.A.C.]

In addition to realizing the capacity of the constructed facility, Merillat requested further physical expansion of the facility. Such an expansion would likely cause emission increases greater than 40 TPY of VOC which is the trigger for another PSD and BACT review. The short time between the original project and the new one suggests they may constitute a single phased construction to which the PSD Rules apply.

In addition, based on the application and conversations with Malcolm Pirnie, it is unclear as to the amount of equipment planned for this expansion. In the application Merillat proposes to modify the Ocala facility by installing additional equipment (spray booths, curing ovens, and ancillary equipment). The facility currently consists of three lines containing spray booths, curing ovens, and ancillary equipment unique to each line. The facility was originally permitted with potential VOC emissions of 249 TPY to cover 4 coating lines of which three have been constructed. The limit is now being approached by the three

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existing lines reportedly due to customer demand and additional hours of operation. The existing building has available space for the immediate addition of one coating line and related equipment. The building has also been constructed with a break-away wall with plans for future expansion of two additional coating lines. The Department requests the following:

- 1) Control equipment cost effectiveness on the basis that all VOC from the original development plus the expansion are available for control. However add-on control might maintain emissions at their pre-expansion level in which case Merillat would not trigger PSD and would only need to maintain emissions at 249 TPY or less.
- 2) Site and floor plans showing equipment layouts, before and after the expansion. (This should include a description of any foundation or infrastructure completed for future building expansion.)
- 3) Description of completed construction. Identify each individual coating line and each individual piece of equipment on that line. This includes, but is not limited to, each spray booth, flash area, and curing oven.
- 4) Please clarify the construction plans for this specific project request including a timeline for planned stages of construction and amount of equipment involved. Identify each individual piece of equipment for the new line. This includes, but is not limited to, each spray booth, flash area, and curing oven.
- 5) If the project is for the addition of one coating line, explain why this line has such a high potential compared to the three existing lines. Explain why the original permit application did not include a request for a higher PTE.
- 6) Describe whether the current potential VOC emissions are limited by the existing woodworking operations and clarify plans for any additions or expansions of these areas.
- 7) Quantify the amounts of VOCs from glues and adhesives and describe the locations where they are applied.

## **II. BACT analysis.**

Add-on controls including regenerative thermal oxidation (RTO), and catalytic oxidation were concluded by the applicant to be inappropriate as BACT for the proposed finishing equipment on the basis of excessive economic impacts. The economic analyses were completed based on two 60,000 cfm control systems. A 10-year equipment life and seven year interest rate were used to calculate a capital recovery cost. The annualized cost effectiveness value in terms of dollars per ton of pollutant (VOC) reduced was calculated by subtracting the current potential emission value (249 TPY) from the newly proposed potential emissions value (411 tons/year) and applying a 90 percent overall control efficiency factor. The estimated ductwork system cost was based on an estimated capital cost completed by Merillat. Note that the RTO estimate in the Control Cost Manual was based on a rough estimate developed by EPA and is in 1988 dollars. The Department requests the following information:

- 1) Describe the existing exhaust system and baghouse equipment used to control particulate matter. Identify the cost of these systems.
- 2) Describe the existing ventilation systems. For each existing spray booth, flash area, and curing oven identify:
  - the quantity of each
  - the VOC emissions from each
  - the flow rate (scfm) from each

- the amount (feet) and cost of existing ductwork used to directly vent VOC emissions to the atmosphere
  - the size, flow rate, and cost of each existing fan.
- 3) Clarify that the cost of ductwork/fans included with the control equipment was discounted by the amount equal to the cost of ductwork/fans typically used to vent VOC emissions directly to the atmosphere when performing cost analyses.
  - 4) Describe the area covered by the two 60,000 cfm control systems. Describe whether exhaust from any of the three existing coating lines is to be included in the possible control systems.
  - 5) Please obtain two or more current vendor quotes for an RTO designed specifically for the proposed system and also for the cost of an RTO had it been installed with the existing equipment. Provide copies of these quotes along with all related vendor correspondence to the Department. As discussed previously on the phone, revise each cost analysis to reflect actual budget estimates from control equipment vendors. The revised estimates will also affect other cost items such as the pressure differential through the system and the fan electricity costs. Also note that control equipment fan electricity costs would be offset by the ventilation fan electricity costs.
  - 6) Provide a cost analysis for a rotary concentrator with oxidizer based on a current vendor quote designed specifically for the proposed system and also for a system had it been installed on the original equipment. The application states that Merillat has evaluated the use of these systems. Include this evaluation with the requested information.
  - 7) As discussed during previous phone conversations, revise the cost analysis to reflect a 20-year life for the control equipment.
  - 8) Based on the application, the RACT/BACT/LAER Clearinghouse (RBLC) identifies at least one facility that operates an RTO as BACT to reduce VOC emissions. Discuss why an RTO was a cost effective and appropriate control technology for that facility and is not for the project.
  - 9) Based on discussions with other permitting agencies, other facilities not identified in the RBLC (including other Merillat facilities) operate RTOs as BACT to reduce VOC emissions or to avoid BACT or PSD review. Discuss why an RTO was cost effective and appropriate control technology for other Merillat facilities and not for this project.
  - 10) Revise the cost analysis to reflect cost per ton of VOC removed by subtracting the actual emissions value (166 tons/year) from the newly proposed potential emissions value (411 TPY) and applying a 90 percent overall control efficiency factor to the remaining 245 tons. Also include a cost per ton analysis applying a 95 percent overall control efficiency factor. Supply an additional cost analysis to reflect cost per ton of VOC removed assuming control of the entire future potential emissions (411 TPY) with a 90 percent and 95 percent overall control efficiency factor.
  - 11) Provide information to support the statement that the existing facilities employing RTOs have "highly automated" spray application systems and not trained operators with HVLP systems. Is this also true for the other Merillat facility utilizing RTO?
  - 12) The application describes "non-destructive" control options as "not as effective" in reducing VOC emissions and were eliminated from consideration. In a top-down BACT determination, controls are ranked according to effectiveness. If a top control is rejected, the next most effective control option must be reviewed. Please revise the top-down BACT analysis accordingly.
  - 13) The application states that the VOC concentration in the exhaust stream can be as low as 100 ppmv. Identify the maximum and average VOC concentration expected in the exhaust stream.

Mr. Michael Stickles  
DEP File: 0830137-003-AC, 0830137-004-AV  
November 8, 2004

### III. Modeling Requirements

According to the application, an exemption from preconstruction air quality monitoring for ozone is requested due to the availability of representative ozone data for the Ocala area. Projects with projected VOC (Volatile Organic Compounds) emissions greater than 100 TPY are required to perform an ambient impact analysis for ozone including the gathering of preconstruction ambient air quality data. Rule 62-212.400(3)(h)(5) states that an application must include *information relating to the air quality impacts of, and the nature and extent of, all general commercial, residential, industrial and other growth which has occurred since August 7, 1977, in the area the facility or modification would affect.* The Department requests the following information:

- 1) Submit the representative monitoring ozone data the applicant refers to and the locations of the monitors with respect to the facility.
- 2) Identify the chemical sources of VOC this project will be emitting.
- 3) Perform an ambient air impact analysis for ozone as is required for projects with greater than 100 TPY VOC emissions, including impacts on soils and vegetation, impacts on the Class I and Class II areas.
- 4) Evaluate odor from sources of VOC with regards to this project, including an evaluation of the extent and degree of odor impacts.
- 5) Satisfy the requirements of Rule 62-212.400(3)(h)(5) as it relates to the Merillat project by submitting the appropriate information.

We have not yet received comments from EPA Region 4 or the Fish and Wildlife Service. We will promptly forward any comments they send us.

Rule 62-4.050(3), F.A.C. requires that all applications for a Department permit must be certified by a professional engineer registered in the State of Florida. This requirement also applies to responses to Department requests for additional information of an engineering nature. Please note that per Rule 62-4.055(1), F.A.C., "The applicant shall have ninety days after the Department mails a timely request for additional information to submit that information to the Department ... Failure of an applicant to provide the timely requested information by the applicable date shall result in denial of the application."

If you have any questions, please call Cindy Mulkey at 850/921-8968.

Sincerely,



A. A. Linero, Administrator  
South Air Permitting Section

Cc: Len Kozlov, DEP  
Jim Little, EPA Region 4  
John Bunyak, National Park Service  
Mike Stickles, Merillat - Ocala  
Donna Tackett, Merillat - Ocala  
Joel Cohn, P.E., Malcolm Pirnie  
David Cibik, P.E., Malcolm Pirnie

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 Mr. Michael Stickles  
 Plant Manager  
 Merillat Corporation  
 1300 Southwest 38th Avenue  
 Ocala, FL 34474

**COMPLETE THIS SECTION ON DELIVERY**

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Name (Please Print Clearly) (To be completed by mailer)  
 Mr. Michael Stickels, Merillat Corp.  
 Street, Apt. No., or PO Box No.  
 1300 Southwest 38th Ave.  
 City, State, ZIP+4  
 Ocala, FL 34474

PS Form 3800, July 1999 See Reverse for Instructions





Jeb Bush  
Governor

# Department of Environmental Protection

Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Colleen M. Castille  
Secretary

October 19, 2004

Mr. Gregg M. Worley, Chief  
Air Permits Section  
U.S. EPA, Region 4  
61 Forsyth Street  
Atlanta, Georgia 30303-8960

RE: Merillat Industries, LLC  
Ocala Facility  
0830137-003-AC

Dear Mr. Worley:

Enclosed for your review and comment is a PSD application submitted by Merillat Corporation for new construction at their Ocala facility in Marion County, Florida.

Your comments may be forwarded to my attention at the letterhead address or faxed to the Bureau of Air Regulation at 850/921-9533. If you have any questions, please contact Cindy Mulkey, review engineer, at 850/921-8968.

Sincerely,

A handwritten signature in cursive script, appearing to read "A. A. Linero".

Handwritten initials "AL" in cursive script.

A. A. Linero, P.E.  
Administrator  
South Permitting Section

AAL/pa

Enclosure

cc: C. Mulkey

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Governor

# Department of Environmental Protection

Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Colleen M. Castille  
Secretary

October 19, 2004

Mr. John Bunyak, Chief  
Policy, Planning & Permit Review Branch  
NPS – Air Quality Division  
P. O. Box 25287  
Denver, Colorado 80225

RE: Merillat Industries, LLC  
Ocala Facility  
0830137-003-AC

Dear Mr. Bunyak:

Enclosed for your review and comment is a PSD application submitted by Merillat Corporation for new construction at their Ocala facility in Marion County, Florida.

Your comments may be forwarded to my attention at the letterhead address or faxed to the Bureau of Air Regulation at 850/921-9533. If you have any questions, please contact Cindy Mulkey, review engineer, at 850/921-8968.

Sincerely,

*for* A. A. Linero, P.E.  
Administrator  
South Permitting Section

AAL/pa

Enclosure

cc: C. Mulkey

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