STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES

MISSOURI AIR CONSERVATION COMMISSION

PERMIT TO CONSTRUCT

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number: 012009-003 Project Number: 2008-04-056

Parent Company: Office of Administration – Division of Facilities Mangagement, Design and Construction

Parent Company Address: 301 West High St., Room 730, P.O. Box 809, Jefferson City, MO 65102

Installation Name: Southeast Correctional Center

Installation Address: 300 East Pedro Simmons Drive, Charleston, MO 63834

Location Information: Mississippi County, S17, T26N, R16E

Application for Authority to Construct was made for:
Installation of a new 13.4 British thermal units per hour (MMBtu/hr) wood-fired boiler and associated equipment. This review was conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, Construction Permits Required.

☐ Standard Conditions (on reverse) are applicable to this permit.
✓ Standard Conditions (on reverse) and Special Conditions are applicable to this permit.

JAN - 9 2009

EFFECTIVE DATE

DIRECTOR OR DESIGNEE
DEPARTMENT OF NATURAL RESOURCES
STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devises shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the departments’ Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant sources(s). The information must be made available not more than 60 days but at least 30 days in advance of this date. Also, you must notify the Department of Natural Resources Regional office responsible for the area within which you are located within 15 days after the actual start up of this (these) air contaminant source(s).

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources’ personnel upon request.

You may appeal this permit or any of the listed special conditions to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

If you choose not to appeal, this certificate, the project review and your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant sources(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit at (573) 751-4817. If you prefer to write, please address your correspondence to the Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, Attention: Construction Permit Unit.
SPECIAL CONDITIONS:
The permittee is authorized to construct and operate subject to the following special conditions:

The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. “Conditions required by permitting authority.”

Southeast Correctional Center
Mississippi County, S17, T26N, R16E

1. Superseding Condition
   The conditions of this permit supersede Special Condition 1.A and the associated record keeping and reporting as required in Special Conditions 1.C and 1.D found in the previously issued construction permit (Construction Permit 082007-001) from the Air Pollution Control Program.

   Southeast Correctional Center shall use no other fuels other than untreated wood in the boiler without receiving prior written authorization from the Air Pollution Control Program.

3. Control Device – Cyclone System
   A. Two mechanical multiple cyclone fly ash arrestors with cyclone (cyclone system) must be in use at all times when the boiler (EP17) associated with this permit is in operation. The cyclone system shall be operated and maintained in accordance with the manufacturer's specifications. The cyclone system shall be equipped with a gauge or meter, which indicates the pressure drop across the control device.
   B. Southeast Correctional Center shall maintain an operating and maintenance log for the cyclone system which shall include the following:
      1) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
      2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.

   Southeast Correctional Center shall allow haul road traffic for wood chip delivery, wood chip overs removal, and ash removal only between the hours of 7:00 a.m. and 3:00 p.m. daily.

5. Operational Limitation – Woodworking Operations and Paint Booth
SPECIAL CONDITIONS:
The permittee is authorized to construct and operate subject to the following special conditions:

Southeast Correctional Center shall allow operation of the woodworking equipment and paint booth only between the hours of 6:00 a.m. and 10:00 p.m. daily.

   A. Southeast Correctional Center shall maintain and/or repair the portions of the haul road described in the Application for Authority to Construct as paved. Maintenance of the surfaces will be conducted as necessary to ensure that the physical integrity of the pavement is adequate to achieve control of fugitive emissions from these areas while the plant is operating.
   B. Southeast Correctional Center shall periodically water, wash and/or otherwise clean all of the paved portions of the haul roads as necessary to achieve control of fugitive emissions from these roads.

7. Notification of Changes
Southeast Correctional Center shall notify the Air Pollution Control Program before initial startup of any modifications to the facility design that could impact the release parameters or emission rates as specified in the Memorandum from the Modeling Unit titled “Ambient Air Quality Impact Analysis (AAQIA) for Southeast Correctional Center-September 09, 2008” and “Ambient Air Quality Impact Analysis (AAQIA) for Southeast Correctional Center-Revision”. In the event the Program determines that the changes are significant, Southeast Correctional Center shall submit an updated Ambient Air Quality Impact Analysis (AAQIA) to the Air Pollution Control Program that continues to demonstrate compliance with the National Ambient Air Quality Standards (NAAQS) and Prevention of Significant Deterioration (PSD) increment standards.
Southeast Correctional Center Complete: April 7, 2008
300 East Pedro Simmons Drive
Charleston, MO 63834

Parent Company:
Office of Administration
Division of Facilities Management, Design and Construction
301 West High St., Room 730, P.O. Box 809
Jefferson City, MO 65102

Mississippi County, S17, T26N, R16E

REVIEW SUMMARY

- Southeast Correctional Center has applied for authority to install a new 13.4 MMBtu per hour wood-fired boiler and associated equipment.

- Hazardous Air Pollutant (HAP) emissions are expected from the combustion of wood in the new boiler.


- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) or currently promulgated Maximum Achievable Control Technology (MACT) regulations apply to the proposed equipment.

- Two mechanical multiple cyclone fly ash arrestors with cyclone are being used to control the particulate matter emissions from the wood-fired boiler.

- This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, Construction Permits Required. Potential emissions of particulate matter less than ten (10) microns in diameter (PM$_{10}$) are above de minimis level but below major level threshold. Potential emissions of all other pollutants are below their respective de minimis levels.

- This installation is located in Mississippi County, an attainment area for all criteria air pollutants.

- This installation is not on the List of Named Installations [10 CSR 10-6.020(3)(B),
Table 2].

- Ambient air quality modeling was performed to determine the ambient impact of PM$_{10}$.
- Emissions testing is not required for the new equipment.
- An amendment to your Basic Operating Permit is required for this installation within 30 days of equipment startup.
- Approval of this permit is recommended with special conditions.

**INSTALLATION DESCRIPTION**

The Southeast Correctional Center (SECC) is located in Charleston, Missouri. The SECC provides housing units for inmates and buildings for administrative offices, education, recreation and support. Emissions sources consist of the furniture manufacturing department as well as three (3) boilers, an emergency generator and three (3) fuel storage tanks.

With this project, the site will remain a minor source under construction permits and a basic source under operating permits. SECC received a Basic Operating Permit in October of 2004 and submitted an amendment in March of 2008 for added equipment.

The following permits have been issued to the SECC from the Air Pollution Control Program.

<table>
<thead>
<tr>
<th>Permit Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>022001-015</td>
<td>Construction of three (3) natural gas/fuel oil boilers, one (1) emergency generator and three fuel storage tanks (gasoline, diesel, fuel oil)</td>
</tr>
<tr>
<td>082007-001</td>
<td>Installation of wood processing equipment (saws, sanders, etc.) and a spray booth for a wood furniture factory.</td>
</tr>
</tbody>
</table>

**PROJECT DESCRIPTION**

The SECC is seeking authority to install a 13.4 MMBtu per hour biomass boiler system to be located near the existing powerhouse. The system will consist of a wood-fired boiler, a method for fuel delivery, fuel storage capacity and conveyors.

**Wood-Fired Boiler (EP17):**
The new boiler will have a heat input of 13.4 MMBtu per hour and will be used to heat water. It will be interconnected with the existing hot water boiler system and is designed to be the primary boiler with back-up from the existing systems. The new boiler system will also have stoker and ash removal and be equipped with two mechanical multiple cyclone fly ash arrestors with cyclone to provide PM$_{10}$ control. The ash removal bin and the rejected wood chip (“overs”) bin will be covered.
The fuel specifications are for wood chips with a 50 percent or less moisture content and a Btu content of approximately 4,350 Btu per pound (minimum). Over 75 percent of the wood chips will be approximately ¼ of an inch to 2 inches in size with 100 percent less than 2 inches.

**Method of Fuel Delivery:**
Covered walking floor vans, also called live bottom trailers, will be used for fuel delivery to the fuel storage pile. These trailers are usually rated to carry around 22 to 24 tons.

**Fuel (Wood Chips) Storage (EP19):**
Fuel (wood chips) will be stored under a roofed structure that is open on three sides. The total amount that can be stored under the structure is 16,170 cubic feet.

**Conveyors:**
There are two material handling system required for the proper operation of the hot water boiler system: the fuel handling and the ash handling. The fuel handling system from the inlet of the inclined conveyor through to the boiler stoker is enclosed. The only "open" conveyors are the walking floor and the vibrating cross conveyor. Since most of the wood chips are a quarter-inch to two-inches in size, the PM$_{10}$ emissions generated from wood chip handling is expected to be insignificant and were not further evaluated. The ash conveyor system is also totally enclosed from the boiler to the ash collection bin and therefore emissions are also not expected from its handling.

**Haul Roads (EP18):**
New haul road usage will be required for wood chip delivery, ash removal and wood chip overs removal. The roads used will be paved. The emissions are based on a maximum of 11 trucks total per day for delivery of wood chips and 1 truck each for ash removal and wood chip overs removal. The 11 trucks include the amount that it would take to fill storage to capacity and operate the boiler for a couple of days.

**EMISSIONS/CONTROLS EVALUATION**

**Wood-Fired Boiler (EP17):**
The emission factors used for the boiler were obtained from the Environmental Protection Agency (EPA) document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Section 1.6, *Wood Residue Combustion in Boilers* (September 2003). The EPA database, Factor Information Retrieval (FIRE) V6.25, *Source Classification Codes and Emission Factors Listing for Criteria Air Pollutants* (SCC # 1-02-009-05), was used to determine the boiler’s acrolein emissions. The cyclone system is designed to operate at 80 percent PM$_{10}$ control efficiency.

**Haul Roads (EP18):**
The emission factor used for the paved haul road was taken from the EPA document AP-42, Fifth Edition, Section 13.2.2, *Unpaved Roads* (November 2006). The haul road will be paved and washed periodically to provide at least 90 percent control of PM$_{10}$ emissions. The emissions were based on a maximum of 13 trucks total per day for
delivery of wood chips, ash removal and wood chip overs removal.

Wood Chip Storage Pile (EP19):
Emissions were calculated for load-in to the storage pile using EPA document AP-42, Fifth Edition, Section 13.2.4, *Aggregate Handling and Storage Piles* (November 2006), and a total daily amount stored of 220 tons which equals the approximate amount that can be stored in the storage area. Because of the relatively large size of the wood chips, we expect insignificant emissions due to wind erosion.

The following table provides an emissions summary for this project. The existing potential emissions were taken from Construction Permits 022001-015 and 082007-001 and recalculated as explained in Note 1 below. The existing actual emissions were taken from the 2007 Emission Inventory Questionnaire (EIQ). Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8,760 hours per year).

**Table 2: Emissions Summary (tons per year)**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PM10</td>
<td>15.0</td>
<td>8.9</td>
<td>0.21</td>
<td>20.22</td>
<td>N/A</td>
</tr>
<tr>
<td>SOx</td>
<td>40.0</td>
<td>46.39</td>
<td>0.24</td>
<td>1.47</td>
<td>N/A</td>
</tr>
<tr>
<td>NOx</td>
<td>40.0</td>
<td>54.41</td>
<td>3.3</td>
<td>12.92</td>
<td>N/A</td>
</tr>
<tr>
<td>VOC</td>
<td>40.0</td>
<td>46.03</td>
<td>0.29</td>
<td>1.00</td>
<td>N/A</td>
</tr>
<tr>
<td>CO</td>
<td>100.0</td>
<td>28.60</td>
<td>2.36</td>
<td>35.22</td>
<td>N/A</td>
</tr>
<tr>
<td>HAPs</td>
<td>10.0/25.0</td>
<td>3.65</td>
<td>N/D</td>
<td>2.04</td>
<td>N/A</td>
</tr>
</tbody>
</table>

N/A = Not Applicable; N/D = Not Determined

1The existing potential emissions were updated to correct miscalculations in Permit Nos. 082007-001 and 022001-015. In Permit No. 082007-001, wood processing equipment and a spray booth were added to the installation. Upon review of the existing emissions, miscalculations were found. Table 2 of 082007-001 and an explanation of the method of calculation have been updated and included in Attachment A. Potential emissions of PM10 for Permit No. 082007-001 as a result of the new calculations are now well below 15 tons per year. Therefore, the PM10 emission limitation as required in 082007-001 has been superseded in this permit.

2In Permit No. 022001-015, three boilers capable of burning natural gas and fuel oil, one emergency generator, and three fuel storage tanks were permitted. PM10 and sulfur oxide (SOx) emissions associated with this equipment were corrected to include condensable PM10 and to apply the appropriate sulfur content to the SOx emission factor. The original PM10 calculations for the three boilers were based on the combustion of No. 2 fuel oil and emission factor which considered only filterable PM10; it was corrected to also include the condensable portion of PM10 when burning No. 2 fuel oil. With SOx, the sulfur content portion of the emission factor was applied twice instead of just once.

**PERMIT RULE APPLICABILITY**

This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM10 are above de minimis level but below major level threshold. Potential emissions of all other pollutants are below their respective de minimis levels.
APPLICABLE REQUIREMENTS

Southeast Correctional Center shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved. For a complete list of applicable requirements for your installation, please consult your operating permit.

GENERAL REQUIREMENTS

- Submission of Emission Data, Emission Fees and Process Information, 10 CSR 10-6.110
  The emission fee is the amount established by the Missouri Air Conservation Commission annually under Missouri Air Law 643.079(1). Submission of an Emissions Inventory Questionnaire (EIQ) is required April 1 for the previous year's emissions.

- Operating Permits, 10 CSR 10-6.065

- Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin, 10 CSR 10-6.170

- Restriction of Emission of Visible Air Contaminants, 10 CSR 10-6.220

- Restriction of Emission of Odors, 10 CSR 10-3.090

SPECIFIC REQUIREMENTS

- Restriction of Emission of Particulate Matter From Industrial Processes, 10 CSR 10-6.400

- New Source Performance Regulations, 10 CSR 10-6.070 – New Source Performance Standards (NSPS) for Small Industrial-Commercial-Institutional Steam Generating Units, 40 CFR Part 60, Subpart Dc

- Restriction of Emission of Sulfur Compounds, 10 CSR 10-6.260

AMBIENT AIR QUALITY IMPACT ANALYSIS

Ambient air quality modeling was performed to determine the ambient impact of PM$_{10}$. For further details on the modeling, please refer to the memo titled “Ambient Air Quality Impact Analysis (AAQIA) for Southeast Correctional Center-September 9, 2008 Submittal” and “Ambient Air Quality Impact Analysis (AAQIA) for Southeast Correctional Center-Revision”. The ambient air quality impact analysis indicates that this project will
not cause ambient air concentrations above acceptable levels.

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

____________________________   __________________________
Susan Heckenkamp      Date
Environmental Engineer

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated April 4, 2008, received April 7, 2008, designating Office of Administration – Division of Facilities Management, Design and Construction as the owner and operator of the installation.


- Southeast Regional Office Site Survey, dated April 22, 2008.
During the course of the technical review for the current project (Project No. 2008-04-056), the current existing emissions associated with the wood furniture facility were re-evaluated. This attachment is a summary of the updates made to the emission factors and methods of calculations that are associated with the wood furniture factory.

Table 2 from Permit No. 082007-001 has been updated in this permit to reflect the emission units and associated control devices currently operating at the wood furniture factory.

### Table 2: Control Device connected to the Emission Unit.

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>Control Device</th>
<th>Control Device Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU-1 Planer</td>
<td>Arrest All AR-75 Dust Collector</td>
<td>CD-1</td>
</tr>
<tr>
<td>EU-2 Rip Saw</td>
<td>Arrest All AR-75 Dust Collector</td>
<td>CD-1</td>
</tr>
<tr>
<td>EU-3 Wide Belt Sanders Timesavers (2)</td>
<td>Arrest All AR-75 Dust Collector</td>
<td>CD-1</td>
</tr>
<tr>
<td>EU-4 Cut off saws</td>
<td>10 HP Grizzly</td>
<td>CD-5</td>
</tr>
<tr>
<td>EU-5 Glue Rack</td>
<td>No Control Device</td>
<td>N/A</td>
</tr>
<tr>
<td>EU-6 Panel Saws</td>
<td>Arrest All AR-75 Dust Collector</td>
<td>CD-1</td>
</tr>
<tr>
<td>EU-7 Dove Tailer</td>
<td>5 HP Grizzly</td>
<td>CD-6</td>
</tr>
<tr>
<td>EU-8 HPL (lamination)</td>
<td>No Control Device</td>
<td>N/A</td>
</tr>
<tr>
<td>EU-9 Wood working</td>
<td>Arrest All AR-75 Dust Collector</td>
<td>CD-1</td>
</tr>
<tr>
<td></td>
<td>10 HP Grizzly</td>
<td>CD-5</td>
</tr>
<tr>
<td>EU-10 Assembly 1</td>
<td>5 HP Grizzly</td>
<td>CD-6</td>
</tr>
<tr>
<td>EU-11 Assembly 2</td>
<td>5 HP Grizzly</td>
<td>CD-7</td>
</tr>
<tr>
<td>EU-12 Stain</td>
<td>No Control Device</td>
<td>N/A</td>
</tr>
<tr>
<td>EU-13 Spray booth</td>
<td>Dry filter</td>
<td>CD –2</td>
</tr>
<tr>
<td>EU-14 Sanding Lines</td>
<td>10 HP Grizzly</td>
<td>CD-3</td>
</tr>
<tr>
<td></td>
<td>10 HP Grizzly</td>
<td>CD-4</td>
</tr>
<tr>
<td>EU-15 Chair Sanding</td>
<td>5 HP Grizzly</td>
<td>CD-7</td>
</tr>
<tr>
<td>EU-16 Eco Press</td>
<td>5 HP Grizzly</td>
<td>CD-6</td>
</tr>
</tbody>
</table>

* Control Devices CD-3, 4, 5, 6 and 7 are portable dust collectors.

The following equipment parameters were used as the basis for the VOC emission calculations. Emission unit numbers were added to Table 3 for further clarification. The application rates are based on maximum historical usages as submitted in the original application. A slight change was made to the thinner usage rate.
Table 3: Material, Application Method and Application Rate of VOC Sources.

<table>
<thead>
<tr>
<th>Material Type</th>
<th>Application Method</th>
<th>Rate (Gallons/Hour)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU-5 Wood Glue</td>
<td>Brushed</td>
<td>0.27</td>
</tr>
<tr>
<td>EU-5 Conbond Glue</td>
<td>Rolled on</td>
<td>0.14</td>
</tr>
<tr>
<td>EU-12 Stain</td>
<td>Wiped on</td>
<td>0.25</td>
</tr>
<tr>
<td>EU-13 Thinner (medium lacquer)</td>
<td>Wiped on</td>
<td>0.24</td>
</tr>
<tr>
<td>EU-13 Paint (wood sealer)</td>
<td>Sprayed on</td>
<td>0.41</td>
</tr>
<tr>
<td>EU-13 Lacquer</td>
<td>Sprayed on</td>
<td>0.56</td>
</tr>
</tbody>
</table>

The potential emissions from the wood furniture factory are primarily VOCs and HAPs that are associated with the spray booth (EU-13). Other VOC sources are listed in Table 3. Potential emissions for the spray booth as well as the gluing and staining operations, as before, are estimated using a mass balance approach and information obtained from the Material Safety Data Sheets (MSDS). 100 percent of the VOC of the glues, stain, paint and lacquers are assumed to be emitted into the atmosphere. The potential emissions of each HAP were determined for each material proposed. The main changes as a result of the re-evaluation of Permit No. 082007-001 were made to the HAP emissions. Incorrect percentages were used for individual HAP contents in the original project calculations. Corrections have resulted in lower individual and combined HAPs.

Other updates to Permit No. 082007-001 include the method for calculating the woodworking emissions. In the re-evaluation, the maximum hourly design rate (MHDR) for the woodworking operation is based on the maximum historical amount of wood used in a month’s time divided by the average time worked per month (7 hours per day, 4 days a week). A 10 percent safety factor was added to the wood usage. The resulting MHDR is equal to 403 boardfeet per hour. Assuming a maximum board width and thickness of 18 and 1.5 inches, respectively, the equivalent MHDR is equal to 1.77 tons per hour. It was assumed that each emission unit 1 through 4, 6, 7, 14 and 15 as well as emission units 10 and 11 combined, processed the maximum amount of wood. Since multiple equipment is associated with emission unit 9, it was assumed that approximately half of the 14 pieces of equipment are able to operate at one time and thus the MHDR was multiplied by a factor of 7. As before, dust collectors control the PM$_{10}$ emissions associated with the woodworking operations. However, a 90 percent collection efficiency with a 95 percent removal efficiency was assumed for all dust collectors. The PM$_{10}$ emission factor of 0.2 pounds per ton of lumber processed was obtained from the Environmental Protection Agency document Factor Information Retrieval (FIRE) V6.24, Source Classification Codes and Emission Factors Listing for Criteria Air Pollutants (SCC # 3-07-008-02).

PM$_{10}$ is also emitted during spray operations that occur in the spray booth (EU-13). Originally, the PM$_{10}$ emissions from the spray booth were based on a different coating. Through subsequent conversations with the facility, these emissions were updated to the appropriate paint and lacquer coatings that are currently being sprayed in the spray booth. The PM$_{10}$ emissions were evaluated based on the solids content of each material. If not specifically stated in the MSDS, the solids content of the material was estimated by taking the density of the material and subtracting out the volatile content and assuming the remainder to be PM$_{10}$. A 50 percent transfer efficiency was assumed. The filter associated with the paint booth has a control efficiency for PM$_{10}$ greater than 99 percent.
The potential emissions for the wood furniture factory and the “New Installation Conditioned Potential” have been updated in Table 4 as follows. The “Existing Potential Emissions” and “Existing Actual Emissions” columns of Permit No. 082007-001 have not been updated since they are included as part of this permit.

Table 4: Emissions Summary (tons per year).

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Regulatory De Minimis Levels</th>
<th>Potential Emissions of the Application</th>
<th>New Installation Conditioned Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM$_{10}$</td>
<td>15.0</td>
<td>3.65</td>
<td>N/A</td>
</tr>
<tr>
<td>SO$_x$</td>
<td>40.0</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>NO$_x$</td>
<td>40.0</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>VOC</td>
<td>40.0</td>
<td>42.21</td>
<td>N/A</td>
</tr>
<tr>
<td>CO</td>
<td>100.0</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>HAPs</td>
<td>10.0/25.0</td>
<td>3.07</td>
<td>N/A</td>
</tr>
<tr>
<td>Methanol</td>
<td>10.0</td>
<td>0.21</td>
<td>N/A</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>10.0</td>
<td>0.05</td>
<td>N/A</td>
</tr>
<tr>
<td>Toluene</td>
<td>10.0</td>
<td>2.13</td>
<td>N/A</td>
</tr>
<tr>
<td>Methyl Isobutyl Ketone</td>
<td>10.0</td>
<td>0.34</td>
<td>N/A</td>
</tr>
<tr>
<td>Xylenes</td>
<td>10.0</td>
<td>0.34</td>
<td>N/A</td>
</tr>
</tbody>
</table>

N/A = Not Applicable

*
Mr. Steven Kroner  
State of Missouri Office of Administration 
2729 Plaza Drive 
Jefferson City, MO 65102  

RE: New Source Review Permit - Project Number: 2008-04-056  

Dear Mr. Kroner:  

Enclosed with this letter is your permit to construct. Please study it carefully. Also, note the special conditions, if any, on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files.  

Operation in accordance with these conditions, your new source review permit application and with your amended operating permit is necessary for continued compliance.  

The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.  

If you have any questions regarding this permit, please do not hesitate to contact Susan Heckenkamp at the departments’ Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102, or by telephone at (573) 751-4817. Thank you for your time and attention to this matter.  

Sincerely,  

AIR POLLUTION CONTROL PROGRAM  

Kendall B. Hale  
New Source Review Unit Chief  
KBH:smhk  
Enclosures  

c: Southeast Regional Office  
PAMS File: 2008-04-056  

Permit Number: