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: 12 2 0 0 8 - 0 0 5  Project Number: 2008-08-083
Parent Company: Caterpillar, Incorporated
Parent Company Address: 2416 Mid-America Industrial Drive, Boonville, MO 65233
Installation Name: Caterpillar, Incorporated - High Performance Molded Parts
Installation Address: 2416 Mid-America Industrial Drive, Boonville, MO 65233
Location Information: Cooper County, S9, T48N, R17W

Application for Authority to Construct was made for:
Construction of a robotic spray booth with curing oven, a 5-stage parts washer with preheat dryer and a grit blaster. This review was conducted in accordance with Section (5), 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.

DEC 11 2008
EFFECTIVE DATE
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 source(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 source(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.”

Caterpillar, Incorporated - High Performance Molded Parts
Cooper County, S9, T48N, R17W

1. Hazardous Air Pollutant (HAP) Emission Limitation
   A. Caterpillar, Incorporated - High Performance Molded Parts shall emit less than ten (10) tons individually or twenty-five (25) tons combined of Hazardous Air Pollutants (HAPs) from the installation in any consecutive 12-month period. The emission points contributing to HAPs for the installation are listed in Table 1.

   Table 1: Installation-Wide Emission Points Emitting HAPs

<table>
<thead>
<tr>
<th>Emission Point</th>
<th>Description of Emission Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>EP-01</td>
<td>Adhesive Paint Booth</td>
</tr>
<tr>
<td>EP-02</td>
<td>Drying Oven</td>
</tr>
<tr>
<td>EP-03</td>
<td>Natural Gas Boilers (2 total, 100 HP each)</td>
</tr>
<tr>
<td>EP-04</td>
<td>Slip Seal Adhesive Booth</td>
</tr>
<tr>
<td>EP-25</td>
<td>Regenerative Thermal Oxidizer</td>
</tr>
<tr>
<td>EP-26</td>
<td>Robotic Spray Booth and Curing Oven</td>
</tr>
<tr>
<td>EP-27</td>
<td>Preheat Dryer</td>
</tr>
</tbody>
</table>

   B. Attachment A and Attachment B or equivalent forms approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Condition 1.A. Caterpillar, Incorporated - High Performance Molded Parts shall maintain all records required by this permit for not less than five (5) years and shall make them available immediately to any Missouri Department of Natural Resources’ personnel upon request. These records shall include Material Safety Data Sheets (MSDS) for all materials used for the installation.

   C. Caterpillar, Incorporated - High Performance Molded Parts shall report to the Air Pollution Control Program’s Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after the end of the month during which the records from Special Condition 1.B indicate that the source exceeds the limitation of Special Condition 1.A.
SPECIAL CONDITIONS:
The permittee is authorized to construct and operate subject to the following special conditions:

2. Control Device Requirements
   A. Caterpillar, Incorporated - High Performance Molded Parts shall control emissions from the robotic spray gun(s) using a paint booth equipped with a series of three (3) filters as specified in the permit application. These paint booth filters shall be maintained in accordance with the manufacturer’s specifications. Replacement filters shall be kept on hand at all times.

   B. Caterpillar, Incorporated - High Performance Molded Parts shall control emissions from the grit blaster using a dust collection system consisting of filter cartridges and a H.E.P.A. filter as specified in the permit application. These filter cartridges and H.E.P.A. filter shall be maintained in accordance with the manufacturer’s specifications. Replacement cartridges and filters shall be kept on hand at all times.

3. Solvent Cloths
   Caterpillar, Incorporated - High Performance Molded Parts shall keep the solvents and cleaning solutions in sealed containers whenever the materials are not in use. Caterpillar, Incorporated - High Performance Molded Parts shall provide and maintain suitable, easily read, permanent markings on all solvent and cleaning solution containers used with this equipment.
REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (5) REVIEW

Project Number: 2008-08-083
Installation ID Number: 053-0019
Permit Number:

Caterpillar, Inc. - High Performance Molded Parts Complete: August 28, 2008
2416 Mid-America Industrial Drive
Boonville, MO  65233

Parent Company:
Caterpillar, Incorporated
2416 Mid-America Industrial Drive
Boonville, MO 65233

Cooper County, S9, T48N, R17W

REVIEW SUMMARY

• Caterpillar, Incorporated - High Performance Molded Parts has applied for authority
to construct a robotic spray booth with curing oven, a 5-stage parts washer with
preheat dryer and a grit blaster.

• Hazardous Air Pollutant (HAP) emissions are expected from the proposed
equipment. HAPs of concern from this process are selenium (CAS # 7782-49-2),
toluene (CAS # 108-88-3), epichlorohydril (CAS # 106-89-8), ethyl benzene (CAS #
100-41-4), xylene (CAS # 1330-20-7), benzene (CAS # 71-43-2), p-xylene (CAS #
106-42-3), methyl isobutyl ketone (CAS # 108-10-1), formaldehyde (CAS # 50-00-0)
and inorganic lead salt (proprietary).

• None of the New Source Performance Standards (NSPS) apply to the proposed
equipment.

• The Maximum Achievable Control Technology (MACT) standard, 40 CFR Part 63,
Subpart HHHHHH, National Emission Standards for Hazardous Air Pollutants: Paint
Stripping and Miscellaneous Surface Coating Operations at Area Sources, applies to
the proposed equipment.

• Three paint filters in series are being used to control the PM$_{10}$ emissions from the
new paint booth (EP26). A dust collection system consisting of filter cartridges and a
H.E.P.A filter are being used to control the emissions from the grit blaster.

• This review was conducted in accordance with Section (5) of Missouri State Rule
10 CSR 10-6.060, Construction Permits Required. Potential emissions of combined
and individual HAPs are conditioned to below major levels. All other criteria
pollutants are below de minimis levels.
This installation is located in Cooper 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 not performed since potential emissions of the application are below de minimis levels.

Emissions testing is not required by the Air Pollution Control Program for the new equipment.

An amendment to your Intermediate Operating Permit is required for this installation within 90 days of equipment startup.

Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Caterpillar – High Performance Molded Products (Caterpillar – HPMP) is an existing engineered rubber and plastics manufacturer located in Boonville, Missouri (Cooper County). Raw materials (rubber and plastic) are molded and pressed in conjunction with steel, adhesives, and coatings.

Caterpillar – HPMP received an Intermediate Operating Permit (OP2006-080) in November of 2006 where they requested to be conditioned to below major levels for individual and total hazardous air pollutants (HAPs). Caterpillar – HPMP is considered an existing minor source for other air pollutants. The following New Source Review permits have been issued to Caterpillar - HPMP from the Air Pollution Control Program.

Table 1: Previously Issued New Source Review Permits to Caterpillar – HPMP.

<table>
<thead>
<tr>
<th>Permit Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1291-008</td>
<td>Construction of a mechanical rubber goods manufacturing facility.</td>
</tr>
<tr>
<td>0893-031</td>
<td>Construction of a gas-fired drying oven for drying adhesive coated steel parts.</td>
</tr>
<tr>
<td>0295-001</td>
<td>Amend existing permits numbers 1291-008 and 0893-031 to allow for increases in production.</td>
</tr>
<tr>
<td>0198-002</td>
<td>Modification of two existing injection processes and for the addition of two new processes.</td>
</tr>
<tr>
<td>102003-020</td>
<td>Installation of eight plastic injection molding machines.</td>
</tr>
<tr>
<td>122004-011</td>
<td>Addition of seven (7) rubber injection molding presses and a plastic injection molding machine.</td>
</tr>
</tbody>
</table>
PROJECT DESCRIPTION

Caterpillar – HPMP is seeking authority to install a new robotic spray booth with curing oven (EP-26), a new 5-stage parts washer with preheating oven (EP27) and a new grit blaster (EP15) at their rubber and plastics facility in Boonville, Missouri. The new robotic spray booth will be used for coating metal parts with adhesives. This function as well as other coating operation are currently being performed in the existing booth (EP01). Transfer of only the adhesive coating processes from EP01 will occur. A replacement 5-stage parts washer will be used to clean, de-rust, and then etch with phosphate prior to entering a new preheat/drying oven. A new grit blaster is also included in this project and is a part of the Clutch Core portion of the Caterpillar operation. The new blaster will be in addition to the existing clutch core grit blaster (EP15).

The new 5-stage parts washer will clean, de-rust, phosphate-etch and preheat products prior to the application of the adhesive in the new spray booth. At this time, Caterpillar – HPMP have not determined whether the fuel source of the drying oven will be natural gas or electric. If it is electric, there will be no emissions associated with the dryer. However, if it is natural gas, the drying oven will have a heat input of less than 10 million British thermal units per hour (MMBtu/hr). Since the dryer is being permitted as a part of this project, a maximum hourly design rate (MHDR) of 10 MMBtu/hr is assumed for the drying oven.

After the parts exit the preheater/dryer, they will be conveyed to the new spray booth where a robot will apply one of four (4) coating mixtures to the product. Four independent guns will be mounted on the robot and will be fed from a mix room located adjacent to the application area. Each of the guns has a MHDR of 500 cubic centimeters per minute or 7.92 gallons per hour (gal/hr). Only one of the guns is operable at any one time. Emissions from the paint booth will be exhausted through a series of three particulate matter filters. The exhaust from the spray booth may be directed to an existing regenerative thermal oxidizer (RTO) located onsite prior to discharge to the ambient air.

Caterpillar – HPMP may choose to move a paint operation that currently takes place in the existing spray booth (EP01) into the new spray booth sometime in the future. A shop-made painting system, capable of operating two guns simultaneously for a combined total design rate of 1,000 cubic centimeters per minute is occasionally used to coat the “back sides” of certain parts with a single coating. Should the back sides process move to the new paint booth, the robotic guns can not operate at the same time that the shop-build systems is in operation. Since the equipment associated with the existing booth has been previously permitted and no modeling has been performed in conjunction with this equipment, this change will not result in any additional emissions from the installation and have not been included in this project.

A curing oven follows the paint booth. At this time, the fuel source has not been determined for the curing oven. If it is electric, there will be no emissions associated with the dryer. However, if it is natural gas, the curing oven will have of heat input of less than 10 MMBtu/hr. Since the curing oven is being permitted as a part of this project, a MHDR of 10 MMBtu/hr is assumed for the drying oven.
Installation of a new grit blaster is also planned at this time. The grit blaster will be used for surface preparation of clutch core parts manufactured at the facility. The grit blaster can blast a maximum of 100 pounds of grit per hour. According to manufacturer data, approximately 80 percent of the grit utilized within the blasting chamber will be recovered by the reclaim separation system. The exhaust stream containing the remaining media will be directed to dust collection equipment. The dust collection system consists of filter cartridges followed by a H.E.P.A filter. The unit discharges within the facility.

It is important to note that the Air Pollution Control Program views changes in coatings as a change in operation which may require a permit. In the event that Caterpillar would like to use an alternative coating other than those stated in the Application for Authority to Construct, Caterpillar should evaluate the potential to emit (PTE) for the new coating. If the potential VOC emissions for the alternative material is greater than or equal to the current VOC PTE as stated in Table 2 or the potential individual HAP emissions is equal to or greater than the Screen Modeling Action Levels (SMALs), then further evaluation is needed to determine whether a permit is required. The following attachments are included to assist Caterpillar in this evaluation: “New Coating Potential to Emit (PTE) Calculation Sheet for EP-26 and 27” and “Screen Modeling Action Levels”.

EMISSIONS/CONTROLS EVALUATION

The project’s potential emissions are primarily VOCs and HAPs that are associated with the new robotic spray booth. Potential emissions for the spray booth were estimated using a mass balance approach and information obtained from the Material Safety Data Sheets (MSDS). 100 percent of the VOC and non-PM$_{10}$ HAP content of the coating mixtures are assumed to be emitted into the atmosphere. The potential emissions of each HAP was determined for each material proposed. Because the facility is taking an installation-wide 10/25 tpy HAP limit, the potential emissions of individual HAPs and total VOCs for each coating were scaled by the either the total HAPs or the limiting individual HAP pollutant. The highest potential emissions for total VOCs, combined HAPs, each individual HAPs and PM$_{10}$ were then used to determine the worst case potential emissions for the project. Although the exhaust from the spray booth may be directed to an existing RTO, operation of the RTO is not required and no control efficiency for its use was applied in the potential emission calculations.

PM$_{10}$ emissions (including HAPs that are considered PM$_{10}$) for the application of the materials were evaluated based on the solids content of the paint and transfer efficiency from air-atomized spray application. A 10 percent transfer efficiency was assumed. 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$_{10}$. Each filter has a control efficiency for PM$_{10}$ greater than 90 percent, the combined control efficiency of the three filters is greater than 99.9 percent.

There will be a small amount of PM$_{10}$ emissions from the grit blaster as well as emissions associated with natural gas combustion. A mass balance approach was
used to estimate the PM$_{10}$ emissions associated with new grit blaster. According to manufacturer data, approximately 80 percent of the grit utilized within the blasting chamber will be recovered by the reclaim separation system. The cartridges and H.E.P.A filter associated with the grit blaster will achieve control efficiencies greater than 95 percent and 99 percent, respectively. The emission factors used for estimating the emissions from natural gas combustion in the drying oven and the curing oven were obtained from the Environmental Protection Agency (EPA) document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Section 1.4, *Natural Gas Combustion* (07/1998).

The following table provides an emissions summary for this project. Existing potential emissions were taken from Permit Number 122004-011. Existing actual emissions were taken from the installation’s 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>PM$_{10}$</td>
<td>15.0</td>
<td>19.21</td>
<td>4.25</td>
<td>0.74</td>
<td>N/A</td>
</tr>
<tr>
<td>SOx</td>
<td>40.0</td>
<td>0.02</td>
<td>0.01</td>
<td>0.05</td>
<td>N/A</td>
</tr>
<tr>
<td>NOx</td>
<td>40.0</td>
<td>3.72</td>
<td>2.00</td>
<td>8.34</td>
<td>N/A</td>
</tr>
<tr>
<td>VOC</td>
<td>40.0</td>
<td>87.62</td>
<td>4.58</td>
<td>30.40</td>
<td>N/A</td>
</tr>
<tr>
<td>CO</td>
<td>100.0</td>
<td>6.63</td>
<td>1.68</td>
<td>7.01</td>
<td>N/A</td>
</tr>
<tr>
<td>Total HAPs</td>
<td>25.0</td>
<td>25.41**</td>
<td>N/D</td>
<td>&lt;25</td>
<td>&lt;25</td>
</tr>
<tr>
<td>Individual HAP</td>
<td>10.0</td>
<td>N/A</td>
<td>N/D</td>
<td>&lt;10</td>
<td>&lt;10</td>
</tr>
<tr>
<td>Selenium*</td>
<td>0.1</td>
<td>N/D</td>
<td>N/D</td>
<td>&lt;0.001</td>
<td>&lt;10</td>
</tr>
<tr>
<td>Toluene</td>
<td>10.0</td>
<td>N/D</td>
<td>N/D</td>
<td>&lt;10</td>
<td>&lt;10</td>
</tr>
<tr>
<td>Epichlorohydril*</td>
<td>2.0</td>
<td>N/D</td>
<td>N/D</td>
<td>0.08</td>
<td>&lt;10</td>
</tr>
<tr>
<td>Ethyl Benzene</td>
<td>10.0</td>
<td>N/D</td>
<td>N/D</td>
<td>2.86</td>
<td>&lt;10</td>
</tr>
<tr>
<td>Xylene</td>
<td>10.0</td>
<td>N/D</td>
<td>N/D</td>
<td>&lt;10</td>
<td>&lt;10</td>
</tr>
<tr>
<td>Benzene*</td>
<td>2.0</td>
<td>N/D</td>
<td>N/D</td>
<td>0.51</td>
<td>&lt;10</td>
</tr>
<tr>
<td>p-Xylene</td>
<td>10.0</td>
<td>N/D</td>
<td>N/D</td>
<td>0.10</td>
<td>&lt;10</td>
</tr>
<tr>
<td>MIBK</td>
<td>10.0</td>
<td>N/D</td>
<td>N/D</td>
<td>&lt;10</td>
<td>&lt;10</td>
</tr>
<tr>
<td>Formaldehyde*</td>
<td>2.0</td>
<td>N/D</td>
<td>N/D</td>
<td>0.13</td>
<td>&lt;10</td>
</tr>
<tr>
<td>Inorganic Lead Salt*</td>
<td>0.01</td>
<td>N/D</td>
<td>N/D</td>
<td>&lt;0.002</td>
<td>&lt;10</td>
</tr>
</tbody>
</table>

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

*The regulatory level listed for this individual HAP is the Screen Modeling Action Level (SMAL).

** Caterpillar was conditioned to major levels (10/25 tons per year) for HAPs emissions in their Intermediate Operating Permit.

***The SMAL for each individual HAP and the VOC de minimis level are not exceeded due to scaling used to maintain the 10/25 HAP limits. As a result of the scaling, screen modeling was not required as a part of this permit review.

PERMIT RULE APPLICABILITY
This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, Construction Permits Required. Potential emissions of combined and individual HAPs are conditioned to below major levels. All other criteria pollutants are below de minimis levels.

APPLICABLE REQUIREMENTS

Caterpillar, Incorporated - High Performance Molded Parts 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 June 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


STAFF RECOMMENDATION
On the basis of this review conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

Susan Heckenkamp  
Environmental Engineer  

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated August 26, 2008, received August 28, 2008, designating Caterpillar, Incorporated as the owner and operator of the installation.

- Material Safety Data Sheets


# Attachment A: Monthly Combined HAPs Tracking Record

Caterpillar, Incorporated - High Performance Molded Parts  
Cooper County, S9, T48N, R17W  
Project Number: 2008-08-083  
Installation ID Number: 053-0019  
Permit Number: 

This sheet covers the month of ____________ in the year ____________.

Copy this sheet as needed.

<table>
<thead>
<tr>
<th>Column 1</th>
<th>Column 2 (a)</th>
<th>Column 3</th>
<th>Column 4</th>
<th>Column 5(b)</th>
<th>Column 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material Used, (Name, HAP CAS #)</td>
<td>Amount of Material Used (Include Units)</td>
<td>Density (Pounds per Gallon)</td>
<td>HAP Content (Weight %)</td>
<td>Transfer /Control Efficiency (%)</td>
<td>HAP Emissions (Tons)</td>
</tr>
<tr>
<td>_____</td>
<td>_____</td>
<td>_____</td>
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<td>_____</td>
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<td>_____</td>
</tr>
</tbody>
</table>

(c) Total HAP Emissions Calculated for this Month in Tons:

(d) 12-Month HAP emissions total from previous month's Attachment A in Tons:

(e) Monthly HAP emissions total (b) from previous year's Attachment A in Tons:

(f) Current 12-month total of HAP emissions in Tons: [(b) + (c) - (d)]

**Instructions:** Choose appropriate HAP calculation method for units reported.

(a) 1) If usage is in tons -  
   \[ \text{[Column 2] } \times \text{[Column 4]} \times \text{[100-Column 5]} / 100 = \text{[Column 6]}; \]

2) If usage is in pounds -  
   \[ \text{[Column 2] } \times \text{[Column 4]} \times \text{[100-Column 5]} / 100 \times 0.0005 = \text{[Column 6]}; \]

3) If usage is in gallons -  
   \[ \text{[Column 2] } \times \text{[Column 3]} \times \text{[Column 4]} \times \text{[100-Column 5]} / 100 \times 0.0005 = \text{[Column 6]}; \]

(b) HAPs that are considered PM<sub>10</sub> can take into account a 10% transfer efficiency and 99.9% control efficiency.

(c) Summation of [Column 6] in Tons;

(d) 12-Month HAP emissions (e) from last month's Attachment A in Tons;

(e) Monthly HAP emissions total (b) from previous year's Attachment A in Tons;
(f) Calculate the new 12-month combined HAPs emissions total. A 12-Month HAP emissions total (e) of less than 25 tons for the installation indicates compliance.
# Attachment B: Monthly Individual HAPs Tracking Record

Caterpillar, Incorporated - High Performance Molded Parts  
Cooper County, S9, T48N, R17W  
Project Number: 2008-08-083  
Installation ID Number: 053-0019  
Permit Number: 

HAP Name: ________________________________ CAS No.: 

This sheet covers the month of _____________ in the year _________________. 

Copy this sheet as needed.

<table>
<thead>
<tr>
<th>Column 1 (a)</th>
<th>Column 2 (b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>List materials from Attachment A which emit this specific HAP (Name, Type)</td>
<td>HAP emissions from Attachment A [Column 6] (in Tons)</td>
</tr>
</tbody>
</table>

(c) Total HAP Emissions Calculated for this Month, in Tons: 
(d) 12-Month HAP Emissions Total (f) from Previous Month's Attachment B, in Tons:  
(e) Monthly HAP Emissions Total (c) from Previous Year's Attachment B, in Tons:  
(f) Current 12-month Total of HAP Emissions in Tons: [(c) + (d) - (e)]: 

Instructions: 
(a) Individually list each material which emits this specific HAP from this installation;  
(b) Record the amount of HAP emissions already calculated for Attachment A in [Column 6] in Tons;  
(c) Summation of [Column 2] in Tons;  
(d) Record the previous 12-Month individual HAP emission total (f) from last month's Attachment B, in Tons;  
(e) Record the monthly HAP emission total (c) from previous year's Attachment B, in Tons;  
(f) Calculate the new 12-month individual HAP emissions total. **A 12-Month individual HAP emissions**
total for the installation of less than ten (10.0) tons indicates compliance.
**OPTIONAL**

New Coating Potential to Emit (PTE) Calculation Sheet for EP-26 and 27
Caterpillar, Incorporated - High Performance Molded Parts
Cooper County, S9, T48N, R17W
Project Number: 2008-08-083
Installation ID Number: 053-0019

<table>
<thead>
<tr>
<th>Column 1</th>
<th>Column 2</th>
<th>Column 3</th>
<th>Column 4</th>
<th>Column 5</th>
<th>Column 6 (a)</th>
<th>Column 7 (b)</th>
<th>Column 8</th>
<th>Column 9</th>
<th>Column 10</th>
<th>Column 11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material Used (Name, Type)</td>
<td>HAP Name and CAS #:</td>
<td>Application Rate (Gallons per hour)</td>
<td>Density (Pounds per gallon)</td>
<td>Individual HAP Content (Weight %)</td>
<td>Individual HAP PTE (Tons per Year)</td>
<td>Screen Modeling Action Level (Tons per Year)</td>
<td>Scaled Individual HAP PTE (Tons per Year)</td>
<td>VOC Content (Weight %)</td>
<td>VOC PTE (Ton per Year)</td>
<td>Scaled VOC PTEs (tpy)</td>
</tr>
<tr>
<td>Example, paint ABC</td>
<td>MIBK 108-10-1</td>
<td>7.93</td>
<td>7.67</td>
<td>75</td>
<td>199.7</td>
<td>10</td>
<td>N/A</td>
<td>5.86</td>
<td>203.4</td>
<td>10.2</td>
</tr>
<tr>
<td>Example, paint ABC</td>
<td>Formaldehyde 50-00-0</td>
<td>1</td>
<td>2.7</td>
<td>2</td>
<td>0.13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total Heat Input of EP-26 &amp; 27 (MMBtu/hr)</th>
<th>Maximum Usage (MMCF/hr)</th>
<th>VOC EF (lb/MMCF)</th>
<th>VOC PTE (tpy)</th>
<th>Total HAP EF</th>
<th>Total HAP PTE (tpy)</th>
<th>If Caterpillar utilizes natural gas in EP-26 and EP-27, then the VOC contributions from these units should be subtracted from 30.4 in d) and f) and the total HAP contribution should be subtracted from 25 in e) and f).</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.5</td>
<td>1.888</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Instructions: Calculate the potential emissions of each individual HAP and total VOCs contained in the material.

a) **Calculate the potential emissions of each individual HAP** - [Column 3] x [Column 4] x [Column 5] x [4.38] / 100 = [Column 6].
b) Screen Modeling Action Levels for individual HAPs with SMALs less than 10 tpy can be found in Attachment D.
c) If [Column 6] is greater than [Column 7] and has a SMAL less than 10 tpy, calculate scaled individual HAP emissions [Column 8], if applicable.
d) If scaling based on individual HAPs, 10 x [Column 6] / [Column 6 for highest individual HAP of material used] = [Column 8]. If scaling based on total HAPs, 25 x [Column 6] / [Summation of Column 6 for material used] = [Column 8]. If [Column 8] is greater than [Column 7], then obtain permission from Air Pollution Control program before using this material.
e) [Column 3] x [Column 4] x [Column 9] x [4.38] / 100 = [Column 10]. If [Column 10] is greater than 30.4 tons per year, then calculate scaled total VOC emissions [Column 11].
f) If scaling based on individual HAPs, 10 x [Column 10] / [Column 6 for highest individual HAP of material used] = [Column 11]. If scaling based on total HAPs, 25 x [Column 10] / [Summation of Column 6 for material used] = [Column 11]. If [Column 11] is greater than 30.4, then obtain permission from Air Pollution Control program before using this material.]
Mr. Greg Wiswall  
Caterpillar, Incorporated - High Performance Molded Parts 
2416 Mid-America Industrial Drive 
Boonville, MO 65233

RE: New Source Review Permit - Project Number: 2008-08-083

Dear Mr. Wiswall:

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: Northeast Regional Office
   PAMS File: 2008-08-083

   Permit Number: