

217/782-2113

CONSTRUCTION PERMIT
NESHAP SOURCE

PERMITTEE

Caterpillar, Inc.
Attn: David Jackson
27th Street & Pershing Road
Decatur, Illinois 62525

Application No.: 10050013

I.D. No.: 115015AAK

Applicant's Designation:

Date Received: May 6, 2010

Subject: Restructuring Project

Date Issued: June 22, 2010

Location: 27th Street & Pershing Road, Decatur

This Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source(s) and/or air pollution control equipment consisting of a Restructuring Project including new and modified coating lines, as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

1.1 Coating Lines

1.1.1 Description

Caterpillar is restructuring its manufacturing process to accommodate a change in the future production mix of heavy equipment at this location. As part of this restructuring Caterpillar needs to modify its current coating operations which will entail the elimination of three paint booths and the addition of two new booths. The one remaining paint booth will not be altered. This restructuring will reduce the amount of paint that is used, improve overall paint quality, and improve worker safety.

Various changes are needed to certain existing paint lines to accommodate painting of different models of equipment and painting of free standing parts. When assembling equipment with finish painted parts, additional touch up coating would be required. This touchup coating will be performed in two new Customer Acceptance Booths. There will also be natural gas fired combustion units associated with the coating operations. These coating operations emit volatile organic material (VOM) and particulate matter (PM). The coating operations would have down draft spray booths equipped with dry filters for the control of PM emissions.

The increase in VOM emissions for this project will exceed the significant VOM emission threshold for purposes of New Source Review. Caterpillar has chosen to perform a netting exercise to show that the net emissions increase for the source is less than significant. When considering other planned changes at the

plant, i.e., the shutdown of several booths, the net VOM emissions increase for this project will be less than significant, i.e. less than 40 tons per year of VOM emissions.

1.1.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
S-Bay Paint System	Modified spray paint line and paint associated delivery system, with ability to handle additional types of coatings.	Dry Filters
PS04 Frame Paint Line	Modified coating line, including an additional robotic coating applicator to apply coatings inside the frames.	Dry Filters
RS2 Area Customer Acceptance Paint Line	A new spray booth and curing oven.	Dry Filters
D-Bldg Customer Acceptance Paint Line	A new spray booth and curing oven.	Dry Filters

1.1.3 Applicability Provisions and Emission Standards

- a. i. The "affected coating lines" for the purpose of this permit are the coating lines described in Conditions 1.1.1 and 1.1.2 and the Wheel Assembly Paint Line*.
 - * The Wheel Assembly Paint Line is an existing paint line that continues in operation with this project.
- ii. The "affected combustion units" for the purpose of this permit are the air make-up units, dry off ovens and curing ovens that are associated with or part of an affected coating line.
- b. The affected coating lines are subject to National Emission Standards for Hazardous Air Pollutants (NESHAP) for Surface Coating of Miscellaneous Metal Parts and Products, 40 CFR 63, Subpart MMMM.
 - i. Organic HAP emissions from the affected coating lines and other subject lines at the source, as a group, shall comply with 40 CFR 63.3890(b)(1), which provides that emissions not exceed 0.31 kg (2.6 lbs) organic HAP per liter (gallon) coating solids used during each 12-month compliance period.

- ii. Certain requirements of the General Provisions, 40 CFR 63, Subpart A also apply to affected sources according to Table 2 of Subpart Mmmm.
- c. Each affected coating line is subject to 35 IAC Part 215.204(j)(3), which provides that no person shall cause or allow the emission of VOM to exceed the following limitations on coating materials, excluding water and any compounds which are specifically exempted from the definition of VOM, delivered to the coating applicator of a miscellaneous metal parts and products coating line applying extreme performance coatings:

Category of Coating	Limit	
	Kg/L	Lbs/Gal
Misc. Metal Parts and Products Coating Extreme Performance Coating	0.42	3.5

- d. Each affected unit is subject to 35 IAC 212.321(a), which provides that no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in 35 IAC 212.321(c). [35 IAC 212.321(a)]
- e. The affected units are subject to 35 IAC 214.301, which provides that no person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission source to exceed 2000 ppm.

1.1.4 Non-Applicability Provisions

- a. i. This permit is issued based on this project not being a major modification for purposes of 40 CFR 52.21, Prevention of Significant Deterioration (PSD). The limits in this permit are intended to ensure that this project does not constitute a major modification of the source pursuant to the PSD rules. (See Attachments 1 and 2.)
- ii. This permit is issued based upon the shutdown of existing coating lines PS02 (MD 4492), PS03 (MD 4139), and PS06 (MD 3905). These existing units shall be permanently shutdown when construction and shakedown of the project is complete or December 31, 2014, whichever occurs first. This period may be extended by the Illinois EPA upon written request by the

Permittee demonstrating that additional time is needed for transfer of production due to unanticipated delays.

- iii. During the transition period between the initial startup of the project and the permanent shutdown of coating lines PS02, PS03, PS06 the VOM emissions from the affected coating lines and existing coating lines PS02, PS03, PS06, combined shall not exceed the emission limits specified in Condition 1.1.6(a)(i). The Permittee shall also keep such records for the operation of coating lines PS02, PS03 and PS06 as needed to verify compliance with this limit. (See Condition 1.1.9.)
- b. As related to the NESHAP, the permit is issued based on the Permittee using the compliant material option or the emission rate without add-on controls option. Accordingly:
 - i. Operating limits for add-on control devices under the NESHAP do not apply. [40 CFR 63.3892(a)]
 - ii. The work practice standards of the NESHAP do not apply. [40 CFR 63.3893(a)]
- c. The affected coating lines, which are subject to the limitations of 35 IAC 215.204, are not required to meet the limitations of 35 IAC Part 215, Subpart K (35 IAC 215.301 or 215.302). [35 IAC 215.209]

1.1.5 Control Requirements and Work Practices

- a. i. The filters on the affected coating lines shall be in operation at all times when applying coatings in the associated booths.
- ii. The Permittee shall follow good operating practices for the filters, including periodic inspection, routine maintenance and prompt repair of defects.
- b. Natural gas shall be the only fuel fired in the air make-up units, dry off ovens, and cure ovens.

1.1.6 Production and Emission Limits

- a. i. Operation and emissions of the affected coating lines, combined shall not exceed the following limits. Compliance with these annual limits and other annual limits in this permit shall be determined from a running total of 12 months of data, i.e., from the sum of the data for a month plus the preceding 11 months.

VOM Usage ^a	VOM Emissions	
	Tons/Yr	Ton/Mo
138.1	17.3	138.1

^a Usage includes material shipped off-site for reclamation or disposal unless records are kept pursuant to Condition 1.1.9(b)(iv).

- ii. This permit is issued based upon minimal emissions of PM from the affected coating lines, combined. For this purpose, emissions of PM shall not exceed 1.24 tons/year, total.
- b. i. Emissions and operation of the fuel combustion units associated with the affected coating lines, such as dry-off ovens, cure ovens, and air make-up units shall not exceed the following limits.

Combined Rated Capacity (mmBtu/Hour)	Pollutant	Emissions	
		Lbs/Hour	Tons/Year
102.9	NO _x	7.15	31.30
	CO	6.00	26.30
	PM	0.54	2.38
	VOM	0.39	1.72

- ii. This permit is issued based upon at most minimal emissions of SO₂ from the fuel combustion units. For this purpose, emissions shall not exceed 0.04 lb/hour and 0.19 tons/year.

1.1.7 Testing Requirements

- a. The Permittee shall comply with the applicable compliance requirements of the NESHAP depending on which compliance method is chosen.
 - i. If using the compliant material option:
 - A. Initial compliance demonstration shall be performed according to 40 CFR 63.3941.
 - B. Continuous compliance demonstration shall be performed according to 40 CFR 63.3942.
 - ii. If using the emission rate without add-on controls option:
 - A. Initial compliance demonstration shall be performed according to 63.3951.

B. Continuous compliance demonstration shall be performed according to 40 CFR 63.3952.

b. The VOM content of coatings shall be determined by Method 24, 40 CFR Part 60, Appendix A. [35 IAC 215.208(a)]

1.1.8 Monitoring Requirements

Instrumental monitoring (e.g., continuous emission monitors) are not required for the affected coating lines.

1.1.9 Recordkeeping Requirements

a. The Permittee shall comply with the applicable recordkeeping requirements of the NESHAP, including 40 CFR 63.3930 and 63.3931.

b. The Permittee shall maintain records of the operation of the affected coating lines as necessary to verify compliance with Condition 1.1.6(a)(i) including:

i. The usage of coatings and solvents, including cleaning solvents, by the type or category (gallons/month and gallons/year).

ii. The VOM content of coatings and solvents by type or category (lbs/gallon), with supporting calculations.

iii. VOM emissions (tons/month and tons/year) with supporting calculations.

iv. If credit is taken for VOM in waste materials, aggregate records of the VOM content and the amount of materials disposed of or recycled shall be maintained for all coatings, cleaning solvents, and any other VOM containing material dispensed to the coating operations, which records shall be kept on at least a monthly basis.

c. i. A file containing documentation for the rated capacity of each affected combustion unit and the combined capacity of all affected combustion units combined (mmBtu/hour).

ii. A file containing calculations for the potential emissions of NO_x, CO, VOM, and PM emissions (pounds/hour and tons/year) from combustion units with supporting documentation.

1.1.10 Reporting Requirements

- a. The Permittee shall comply with the applicable notification and reporting requirements of the NESHAP, including 40 CFR 63.3910 and 63.3920.
- b. The Permittee shall promptly notify the Illinois EPA of deviations of an affected coating line with the permit requirements as follows. Reports shall describe the deviations, probable cause of such deviations, the corrective actions taken, and any preventive measures taken:
 - i. Operation or emissions of the affected coating lines in excess of the limits specified in Condition 1.1.5(a)(iii) or 1.1.6(a)(i) within 30 days of such occurrence.
 - ii. Other deviations shall be submitted consistent with the reporting requirements for deviations of the NESHAP.

1.1.11 Authorization to Operate

The affected coating lines may be operated under this permit until renewal or reissuance of the source's CAAPP permit to address this project. This condition supersedes Standard Condition 6.

If you have any questions on this permit, please contact Jason Schnepf at 217/782-2113.

Edwin C. Bakowski, P.E.
Manager, Permit Section
Division of Air Pollution Control

Date Signed: _____

ECB:JMS:psj

cc: Region 3

Attachment 1: Annual Emission Limits and Increases^a In Emissions For the Project (Tons/Year)

Affected Units	NO _x		CO		SO ₂		VOM		PM/PM ₁₀ /PM _{2.5} ^b	
	Limit	Increase	Limit	Increase	Limit	Increase	Limit	Increase	Limit	Increase
S-Bay	31.30	4.30	26.30	3.60	0.19	0.02	139.82	78.34	3.62	0.56
Frame (PS04)										
Wheel Assembly										
RS2-CA										
D Bldg-CA										
Significance Threshold:		40		100		40		40		25/15/10
Greater Than Significant?		No		No		No		Yes		No

Notes:

- a. Increases in emissions are calculated by comparing the permitted emissions (or "limit") with the baseline actual emissions. Baseline actual emissions are from the period March 2007 through February 2009.
- b. Filterable PM₁₀/PM_{2.5} quantified only, in accordance with the final rule for Implementation of the NSR Program for PM_{2.5}, 73 FR 28321.

Attachment 2: Netting Analysis for VOM Emissions (Tons/Year)^a

Project Emissions Increases	78.34
Project Emissions Decreases	-39.50
Project Subtotal:	38.84
Contemporaneous Increases/Decreases	
None ^b	n/a
Contemporaneous Changes Subtotal:	n/a
NET EMISSIONS CHANGE:	38.84
Significance Threshold:	40
Greater Than Significant?	No

Notes:

- a. Netting is not performed for pollutants other than VOM because the project increase for other pollutants are less than significant (See Attachment 1).
- b. The proposed Touch-up Booths 22 & 23 addressed by Construction Permit 07050051 were not constructed.