

STATEMENT OF BASIS

For the issuance of Draft Air Permit # 2209-AR-1 AFIN: 60-01529

1. PERMITTING AUTHORITY:

Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317

2. APPLICANT:

Caterpillar Inc.
9201 Faulkner Lake Road
North Little Rock, Arkansas 72117

3. PERMIT WRITER:

Michael Lynch

4. PROCESS DESCRIPTION AND NAICS CODE:

NAICS Description: Construction Machinery Manufacturing
NAICS Code: 333120

5. SUBMITTALS:

4/16/2010

6. REVIEWER'S NOTES:

Caterpillar Inc. (AFIN: 60-01529) operates a motor grader manufacturing facility located 9201 Faulkner Lake Road, North Little Rock, Arkansas 72117. The initial Permit 2209-A was issued to Caterpillar on August 5, 2009. The facility was permitted for annual emissions of 1.6 tpy PM, 1.6 tpy PM₁₀, 0.3 tpy SO₂, 89.5 tpy VOC, 13.7 tpy CO, and 19.3 tpy NO_x. This de minimus modification corrects the hourly emission of VOC at SN-01 (from 20.7 to 38.5 tpy) and adds a touch-up booth to SN-01. No production rates or permitted emission limits have been proposed.

Facility HAP Emissions

Hazardous air pollutants are primarily emitted from the painting operations SN-01 and from the remaining sources but in much smaller quantities. The HAP emissions from the remaining sources were evaluated and determined to be emitted in quantities below *de minimis* levels.

7. COMPLIANCE STATUS:

The following summarizes the current compliance of the facility including active/pending enforcement actions and recent compliance activities and issues.

The facility is not yet in operation and has not been inspected.

8. PSD APPLICABILITY:

a. Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, etc.)? N

b. Is the facility categorized as a major source for PSD? N
Single pollutant ≥ 100 tpy and on the list of 28 or single pollutant ≥ 250 tpy and not on list?

If yes, explain why this permit modification not PSD?

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

| Source | Pollutant | Regulation (NSPS, NESHAP or PSD) |
|--------|------------------------------|-------------------------------------|
| 04, 05 | PM, VOC, CO, NO _x | 40 CFR Part 60 Subpart IIII |
| 04, 05 | HAPS | 40 CFR Part 63, Subpart ZZZZ |

Note: 40 CFR Part 63, Subpart HHHHHH is potentially applicable, but the application states Caterpillar will not apply coatings which contain target HAP.

40 CFR Part 63, Subpart XXXXXX is potentially applicable, but the application states proposed coating materials do not contain any of the MFHAPs above the regulatory criteria (i.e. 0.1 weight percent for carcinogens or 1.0 weight percent non-carcinogens).

10. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

11. MODELING:

Criteria Pollutants

Examination of the source type, location, plot plan, land use, emission parameters, and other available information indicate that modeling is not warranted at this time.

Non-Criteria Pollutants:

This permit contains a TLV table for non-criteria pollutants. Modeling was used to determine the permitted emission rates for ranges of non-criteria pollutants (grouped by TLV) that pass the PAER. Therefore, modeling of specific non-criteria pollutants was not performed.

| TLV greater than or equal to mg/m ³ | Maximum Allowable Individual HAP Content lb/gal |
|---|---|
| 345.0 | 3.50 |
| 310.5 | 3.15 |
| 276.0 | 2.80 |
| 241.5 | 2.45 |
| 207.0 | 2.10 |
| 172.5 | 1.75 |
| 138.0 | 1.40 |
| 103.5 | 1.05 |
| 69.0 | 0.70 |
| 34.5 | 0.35 |
| 3.45 | 0.035 |
| 0.345 | 0.0035 |
| 0.0345 | 0.00035 |

Other Modeling:

Odor:

Examination of the source type, location, plot plan, land use, emission parameters, and other available information indicate that modeling is not warranted at this time.

12. CALCULATIONS:

| SN | Emission Factor Source (AP-42, testing, etc.) | Emission Factor (lb/ton, lb/hr, etc.) | Control Equipment | Control Equipment Efficiency | Comments |
|----|--|---|-------------------|---|---|
| 01 | Mass Balance | 0.1 lb PM ₁₀ /hr 3.5 lb VOC/gal 3.5 lb HAP/gal | Fabric Filter | For PM ₁₀ 65% Transfer 99% Removal | Maximum liquid coating usage, 10.84 gal/hr. |
| 02 | AP-42 | Natural Gas Combustion See. AP-42, Section 1.4 | None | N/A | Maximum total heat input is 36.7 MMBTU/hr. |

| SN | Emission Factor Source (AP-42, testing, etc.) | Emission Factor (lb/ton, lb/hr, etc.) | Control Equipment | Control Equipment Efficiency | Comments |
|----|---|--|-------------------|------------------------------|--|
| 03 | TANKS | 0.1 lb VOC/hr | None | N/A | Consist of three (3) 10,000 gallon tanks which store No. 2 diesel. |
| 04 | Manufacturer's Specifications | In g/kW-hr: 0.20 PM 4.0 NMHC + NO _x 3.5 CO | None | N/A | Annual limits are based on 500 hr/yr operation. |
| 05 | Manufacturer's Specifications | In g/kW-hr: 0.20 PM 4.0 NMHC + NO _x 3.5 CO | None | N/A | Annual limits are based on 500 hr/yr operation |

13. TESTING REQUIREMENTS:

The permit does not require testing.

14. MONITORING OR CEMS

The permit does not require CEMS or other monitoring devices.

15. RECORDKEEPING REQUIREMENTS:

The following are items (such as throughput, fuel usage, VOC content, etc.) that must be tracked and recorded.

| SN | Recorded Item | Permit Limit | Frequency | Report (Y/N) |
|--------|-----------------------------|--|--|--------------|
| 01 | Coating Usage | 38,238 gal/yr | Monthly | N |
| 01 | Solvent Usage | 18,576 gal/yr | Monthly | N |
| 01 | Powder Coating Usage | 94,899 | Monthly | N |
| 01 | Coating and Solvent Content | Coating: 3.5 lb VOC/gal 3.5 lb HAP/gal Solvent: 2.3 lb VOC/gal 4.6 lb Acetone/gal | One time per product, unless formula changes | N |
| 03 | No. 2 Diesel | 349,000 gal/yr | Monthly | N |
| 04, 05 | Hours of Operation | 500 hr/yr/source | Monthly | N |

16. OPACITY:

| SN | Opacity | Justification for limit | Compliance Mechanism |
|-------------|---------|-------------------------|-----------------------|
| All Sources | 5% | Department Guidance | Method 9 or Method 22 |

17. DELETED CONDITIONS:

There were no conditions which were deleted.

18. GROUP A INSIGNIFICANT ACTIVITIES

| Source Name | Group A Category | Emissions (tpy) | | | |
|---|------------------|---------------------|-------|--------|-------|
| | | PM/PM ₁₀ | VOC | HAPs | |
| | | | | Single | Total |
| Arc Welding | A-13 | 2.3 | | 0.14 | 0.15 |
| Three 10,000 gal Motor Oil Storage Tanks | A-3 | | <0.01 | | |
| Four 10,000 gal Hydraulic Oil Storage Tanks | A-3 | | <0.01 | | |
| Total | | 2.3 | <0.01 | 0.14 | 0.15 |


19. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

List all active permits voided/superseded/subsumed by the issuance of this permit.

| Permit # |
|----------|
| 2209-A |

20. CONCURRENCE BY:

The following supervisor concurs with the permitting decision.


 Phillip Murphy, P.E.
 Engineering Supervisor, Air Division

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Minor Source

Revised 03-01-10

Facility Name: Caterpillar Inc.

Permit Number: 2209-AR-1

AFIN: 60-01529

| | | | | | |
|-----------------------------------|--------------------------|------------------------------------|------------|--|------------|
| | | | Old Permit | | New Permit |
| \$/ton factor | 22.07 | Permit Predominant Air Contaminant | 89.5 | | 89.5 |
| Minimum Fee \$ | 400 | Net Chargeable Emission Increase | 0 | | |
| Minimum Initial Fee \$ | 500 | Permit Modification Fee \$ | 400 | | |
| | | Initial Permit Fee \$ | 0 | | |
| Check if Administrative Amendment | <input type="checkbox"/> | Annual Chargeable Emissions (tpy) | 89.5 | | |

| Pollutant (tpy) | Old Permit | New Permit | Change |
|-------------------------|------------|------------|--------|
| PM | 1.6 | 1.6 | 0 |
| PM ₁₀ | 1.6 | 1.6 | 0 |
| SO ₂ | 0.3 | 0.3 | 0 |
| VOC | 89.5 | 89.5 | 0 |
| CO | 13.7 | 13.7 | 0 |
| NO _x | 19.3 | 19.3 | 0 |
| Single HAP* | 9.5 | 9.5 | 0 |
| Combined HAP* | 24.5 | 24.5 | 0 |
| Acetone | 43 | 43 | 0 |
| | 0 | 0 | 0 |
| * Included in VOC total | 0 | 0 | 0 |