

Air Permit Review

Region: Mooresville Regional Office
County: Rowan
NC Facility ID: 8000045
Inspector's Name: Jim Westmoreland
Date of Last Inspection: 02/19/2009
Compliance Code: 3 / Compliance - inspection

Permit Issue Date:

| | | | |
|---|---|---|--|
| Facility Data | | | Permit Applicability (this application only) |
| Applicant (Facility's Name): Daimler Trucks North America - Cleveland Plant Facility Address: Daimler Trucks North America - Cleveland Plant 11550 Statesville Boulevard Cleveland, NC 27013 SIC: 3711 / Motor Vehicles And Car Bodies NAICS: 33612 / Heavy Duty Truck Manufacturing Facility Classification: Before: Title V After: Title V Fee Classification: Before: Title V After: Title V | | | SIP: NSPS: NESHAP: 2D .1109 – Case-by-Case MACT PSD: PSD Avoidance: NC Toxics: 112(r): Other: |
| Contact Data | | | Application Data |
| Facility Contact | Authorized Contact | Technical Contact | Application Number: 8000045.09A Date Received: 09/08/2009 Application Type: 112(j) Part II Application Schedule: TV-Significant Existing Permit Data Existing Permit Number: 04625/T28 Existing Permit Issue Date: 01/05/2010 Existing Permit Expiration Date: 08/30/2014 |
| Thomas Wilk Environmental Engineer (707) 822-7334 1800 North Main Street Mount Holly, NC 28120 | Mike McCurry Plant Manager (704) 645-5100 11550 Statesville Blvd. Cleveland, NC 27013 | Thomas Wilk Environmental Engineer (707) 822-7334 1800 North Main Street Mount Holly, NC 28120 | |
| Review Engineer: Fern Paterson, P.E. Review Engineer's Signature: _____ Date: _____ | | Comments / Recommendations: Issue: 04625/T29 Permit Issue Date: _____ Permit Expiration Date: 08/30/2014 | |

I. Purpose of Application

Daimler Trucks North America LLC owns and operates the Cleveland Truck Manufacturing Plant is located in Cleveland, Rowan County, North Carolina. Application No. 8000045.09A, received September 8, 2009, is a Part 2 MACT "Hammer" application for six natural gas-fired boilers (**ID Nos. ES-BLR-1 through ES-BLR-6**). Five of the boilers, as listed below, are less than 10 MMBtu/hr and have not previously been listed on the permit pursuant to 15A NCAC 2Q .0503(8).

- **ES-BLR-1.** Boiler No. 1 – Office Boiler, natural gas-fired (0.94 million Btu per hour maximum heat input)
- **ES-BLR-2.** Boiler No. 2 – Mechanical Room, natural gas-fired (6.28 million Btu per hour maximum heat input)
- **ES-BLR-3.** Boiler No. 3 – Boiler Room 400A, natural gas-fired (8.37 million Btu per hour maximum heat input)
- **ES-BLR-4.** Boiler No. 4 – Hood Paint Center, natural gas-fired (5.14 million Btu per hour maximum heat input)
- **ES-BLR-6.** Boiler No. 6 – Building 400, natural gas-fired (3.38 million Btu per hour maximum heat input)

II. Permit Modifications/Changes

The following table describes the modifications to the current permit.

| Page(s) | Section | Description of Change(s) |
|---------|-------------------|--|
| 1 | Permit Cover Page | Amend permit revision numbers and issuance/effective dates. |
| 3 | Section 1 | - Add previously insignificant boilers to the permit (ID Nos. ES-BLR-1, -2, -3, -4, and -6). - Add “Case-By-Case MACT” designation to all combustion sources (ID Nos. ES-BLR-1 through ES-BLR-6). |
| 4 | Section 2.1.A. | - Add previously insignificant boilers to this list of sources (ID Nos. ES-BLR-1, -2, -3, -4, and -6). - Add CAA § 112(j) (15A NCAC 2D .1109) to the list of applicable regulations. |
| 5 | Section 2.1.A.1. | Add PM emissions limitation for the previously insignificant boilers to this list of sources (ID Nos. ES-BLR-1, -2, -3, -4, and -6). |
| 6 | Section 2.1.A.5 | Add Section to include 112(j) MACT Hammer requirements applicable to the affected boilers (ID Nos. ES-BLR-1 through ES-BLR-6). |
| 35-43 | Section 3 | Update General Provisions with the most recent revision (v. 3.2.2) |

III. Regulatory Review

- A. **15A NCAC 2D .0503 – Particulates from Fuel Burning Indirect Heat Exchangers** – This regulation limits particulate matter (PM) emissions from the firing of fuel in indirect heat exchangers (in lb/MMBtu) based on the facility-wide heat input. The allowable PM emission rate is calculated using the following equation:

$$E = 1.090 * Q^{-0.2594}$$

Where:

E = Allowable emission limit for particulate matter in lbs/MMBtu; and,
Q = Maximum heat input in MMBtu/hr.

With the addition of the formerly insignificant boilers (**ID Nos. ES-BLR-1, ES-BLR-2, ES-BLR-3, ES-BLR-4, and ES-BLR-6**) to Section 1 of the permit, the facility heat input is 57.7 MMBtu/hr.

| <u>Boiler ID No.</u> | <u>Rated Capacity</u> |
|----------------------|-----------------------|
| ES-BLR-01 | 0.94 MMBtu/hr |
| ES-BLR-02 | 6.28 MMBtu/hr |
| ES-BLR-03 | 8.37 MMBtu/hr |
| ES-BLR-04 | 5.14 MMBtu/hr |
| ES-BLR-05 | 33.6 MMBtu/hr |
| <u>ES- BLR-6</u> | <u>3.38 MMBtu/hr</u> |
| <i>Total</i> | <i>57.7 MMBtu/hr</i> |

Based on this updated, facility-wide heat input capacity, the PM limit for Boiler No1. 1, 2, 3, 4, and 6 will be 0.38 lbs/MMBtu. Using AP-42 emission factors, PM emissions from natural gas are estimated to be less than 0.38 lb/MMBtu, as follows:

$$\left(\frac{7.6 \frac{lbPM_{total}}{mmscf}}{1,020 \frac{MMBtu}{mmscf}} \right) = 0.007 \frac{lbPM_{total}}{mmBtu}$$

Because worst-case PM emission rates are estimated to be less than the allowable PM emission rate, no monitoring, recordkeeping, or reporting shall be required to demonstrate compliance with this limitation.

- B. **15A NCAC 2D .0516– Sulfur Dioxide Emissions From Combustion Sources** – This regulation limits sulfur dioxide (SO₂) emissions to no greater than 2.3 lb/mmBtu of heat input for combustion sources. Using AP-42 emission factors, SO₂ emissions from natural gas are estimated to be less than 2.3 lb/MMBtu, as follows:

$$\frac{\left(0.6 \frac{\text{lbSO}_2}{\text{mmscf}}\right)}{1,020 \frac{\text{MMBtu}}{\text{mmscf}}} = 0.0006 \frac{\text{lbSO}_2}{\text{mmBtu}}$$

Because worst-case SO₂ emission rates are estimated to be less than the allowable SO₂ emission rate, no monitoring, recordkeeping, or reporting shall be required to demonstrate compliance with this limitation.

- C. **15A NCAC 2D .0521 – Control of Visible Emissions** – Visible emission (VE) standards provided in this regulation are applicable to potential VE emissions from any stack, vent, or outlet. This regulation limits visible emissions to no more than 20 percent opacity when averaged over a 6-minute period, except that 6-minute periods averaging more than 87 percent opacity may occur not more than once in any hour not more than four times in any 24-hour period. Because natural gas firing is associated with inherently low visible emissions, no monitoring, recordkeeping, or reporting shall be required to demonstrate compliance with this limitation.
- D. **15A NCAC 2D .1109 – CAA § 112(j); Case-by-Case MACT for Boilers & Process Heaters** – On July 20, 2007, the D.C. Circuit Court vacated the National Emission Standard for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters, which had been promulgated under 40 CFR 63, Subpart DDDDD. The North Carolina Attorney General’s office has determined that the NESHAP vacatur equates to the failure of the U.S. EPA to promulgate a standard as required under Section 112(d) of the Clean Air Act (CAA). As a result, the site-specific Maximum Achievable Control Technology (MACT) standards required under CAA §112(j), commonly referred to as the MACT “hammer” provisions, have been triggered. North Carolina regulations implementing the MACT hammer are found at 15A NCAC 2D .1109.

On August 21, 2009, the NC DAQ received a Part 2 MACT “Hammer” application from this facility asking that the NC DAQ establish 112(j) emissions limitations in accordance with NC DAQ’s recommendations.

No control technologies for the control of CO, metals, Hg, or HCl were identified for natural gas, propane, or No. 2 fuel oil-fired boilers in the state of North Carolina, nor were any such technologies identified in a North Carolina query using U.S. EPA’s AirControlNet software (v4.1). The NC DAQ has determined that MACT is the use of best work practice standards for natural gas, propane, and/or No. 2 fuel oil-fired combustion sources of this size, consistent with the provisions in CAA § 112(d)(2)(D). Best work practice standards in this case shall include the annual inspection and maintenance of the boiler as follows:

To assure compliance, the Permittee shall perform an annual boiler inspection and maintenance as recommended by the manufacturer, or as a minimum, the inspection and maintenance requirement shall include the following:

- i. Inspect the burner, and clean or replace any components of the burner as necessary;*
- ii. Inspect the flame pattern and make any adjustments to the burner necessary to optimize the flame pattern; and,*
- iii. Inspect the system controlling the air-to-fuel ratio, and ensure that it is correctly calibrated and functioning properly.*

The Permittee shall conduct at least one tune-up per calendar year to demonstrate compliance with this requirement. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if the affected boilers are not inspected and maintained as required above.

In addition, the Permittee will be required to record the results of the annual inspection in a logbook (written or electronic format), which shall be retained on-site and made available to an authorized representative upon request.

IV. Draft Permit Review Summary

Jim Westmoreland and Denise Hayes of the Mooresville Regional Office were provided a draft permit and draft permit review document on October 21, 2010.

Thomas Wilk of Daimler was provided a draft permit for review on October 21, 2010.

Ms. Katy Forney and Ms. Gracy DeNois (U.S. EPA, Region IV) were provided a draft permit for review on <DATE>. <SUMMARY OF COMMENTS>.

V. Recommendations

This permit modification application for the Daimler Trucks North America Truck Manufacturing Plant located in Cleveland, Rowan County, North Carolina has been reviewed by NC DAQ to determine compliance with all procedures and requirements. NC DAQ has determined that this facility appears to be complying with all applicable requirements.

Issue Permit No. 04625T29