

**NORTH CAROLINA DIVISION OF
AIR QUALITY**

Air Permit Review

Permit Issue Date: **date, 2010**

Region: Raleigh Regional Office
County: Nash
NC Facility ID: 6400232
Inspector's Name: Will Wike
Date of Last Inspection: 07/15/2009
Compliance Code: 3 / Compliance - inspection

Facility Data			Permit Applicability (this application only)
Applicant (Facility's Name): Consolidated Diesel Company Facility Address: Consolidated Diesel Company 9377 US Highway 301 North Whitakers, NC 27891 SIC: 3519 / Internal Combustion Engines NAICS: 333618 / Other Engine Equipment Manufacturing Facility Classification: Before: Title V After: Title V Fee Classification: Before: Title V After: Title V			SIP: NSPS: NESHAP: PSD: PSD Avoidance: NC Toxics: 112(r): Other:
Contact Data			Application Data
Facility Contact	Authorized Contact	Technical Contact	Application Number: 6400232.10A Date Received: 04/05/2010 Application Type: Renewal Application Schedule: TV-Renewal Existing Permit Data Existing Permit Number: 04620/T23 Existing Permit Issue Date: 03/02/2010 Existing Permit Expiration Date: 07/31/2011
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Review Engineer: Mark Cuilla Review Engineer's Signature: Date: date, 2010		Comments / Recommendations: Issue 04620/T24 Permit Issue Date: date, 2010 Permit Expiration Date: date, 2015	

I. Purpose of Application

This permitting action is a renewal of an existing Title V permit pursuant to 2Q .0513. The existing Title V permit (**04620T23**) was issued on **March 2, 2010**, and is scheduled to expire on **July 31, 2011**. The renewal application was received on **April 5, 2010**, or at least nine months prior to the expiration date. Therefore, the existing permit shall not expire until the renewal permit has been issued or denied. All terms and conditions of the existing permit shall remain in effect until the renewal permit has been issued or denied.

II. Facility Description

The facility is a diesel engine manufacturing facility that manufactures engines for trucks, farm equipment, and boats. Production is divided into two lines (small engines/large engines). Operations include several machining processes, spray booths, ovens, test stands, generators, washers, and boilers.

III. History/Background/Application Chronology

August 2, 2006 – Permit **04620T20** issued as a Title V renewal.

September 18, 2006 – Permit **04620T21** issued as an administrative amendment to correct issuance and expiration dates on the cover page of the permit.

September 1, 2009 – Permit **04620T22** issued as a minor modification to replace generator (**ID No. ES-3ADG**) and to add specific NSPS Subpart IIII language.

July 15, 2009 – Facility was inspected by Will Wike of the Raleigh Regional Office.

March 2, 2010 – Permit **04620T23** issued as a significant modification to add 2D .1109 Case-by-Case MACT language for combustion sources.

April 5, 2010 – Permit application **6400232.10A** was received for the renewal of the Title V air permit.

July 8, 2010 – DRAFT permit sent to Permittee and RRO for comment prior to public notice and EPA review.

date, 2010 – DRAFT sent to 30-day public notice and 45-day EPA review prior to issuance.

IV. Permit Modifications/Changes and ESM Discussion

The following table describes the modifications to the current permit as part of the renewal process.

Page	Section	Description
Attachment	Insignificant Activities	-added two non-combustion cold test stands per May 18, 2010 applicability determination response
-	Cover	-amended all dates and permit revision numbers
All	Header	-amended permit revision number
3-4	Equipment Table	-replaced “112j” designation with “.1109 Case-by-Case MACT” where necessary
25-37	2.2 D.1	-replaced placeholder MACT Subpart MMMM language with detailed language
37-38	2.2 E.1	-replaced placeholder 2Q .0705 language with detailed language including date of demonstration submittal

The following sources were added to ESM as part of this renewal process:

Before modification	After modification
NA	Two non-combustion cold test stands (ID Nos. IS-ES9.1 and IS-ES9.2)

V. Regulatory Review

The facility is currently subject to the following regulations:

- 15A NCAC 2D .0503, Particulates from Fuel Burning Indirect Heat Exchangers
- 15A NCAC 2D .0515, Particulates from Miscellaneous Industrial Processes
- 15A NCAC 2D .0516, Sulfur Dioxide Emissions from Combustion Sources
- 15A NCAC 2D .0521, Control of Visible Emissions
- 15A NCAC 2D .0524, New Source Performance Standards (40 CFR 60, Subparts Kb and IIII)
- 15A NCAC 2D .0934, Coating of Miscellaneous Metal Parts and Products
- 15A NCAC 2D .0958, Work Practices for Sources of Volatile Organic Compounds
- 15A NCAC 2D .1100, Control of Toxic Air Pollutants
- 15A NCAC 2D .1109, 112(j) – Part II MACT Hammer for Boilers and Process Heaters
- 15A NCAC 2D .1111, Maximum Achievable Control Technology (40 CFR 63, Subparts MMMM and ZZZZ)
- 15A NCAC 2Q .0317, Avoidance Conditions (15A NCAC 2D .0530, Prevention of Significant Deterioration)
- 15A NCAC 2Q .0705, Existing Facilities and SIC Calls

A regulatory review for the existing sources will not be included in this document.

VI. NSPS, NESHAPS/MACT, PSD, 112(r), CAM

NSPS – The Permittee is subject to the following New Source Performance Standards:

1. 40 CFR 60, Subpart Kb, Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984 - For the diesel storage tank (**ID No. ES-DST**), the Permittee shall comply with all applicable provisions, including paragraphs 60.116b(a) and (b), contained in the Environmental Management Commission Standard 15A NCAC 2D .0524 “New Source Performance Standards (NSPS)” as promulgated in 40 CFR Part 60, Subpart Kb. The Permittee shall maintain a list of tanks, recording the tanks’ dimensions and capacity. The Permittee shall be deemed in noncompliance with 40 CFR 60, Subpart Kb if records are not kept. This permit renewal does not change this status.
2. 40 CFR 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines – The provisions of this Subpart are applicable to the manufacturers, owners, and operators of stationary compression ignition (CI) internal combustion engines (ICE). A permit modification for the construction and operation of one diesel-fired generator (**ID No. ES-3ADG**) was submitted on **April 22, 2009**. The generator is equipped with a catalytic oxidizer for control. The current permit includes the required emission standards, testing, monitoring, recordkeeping and reporting requirements of the Subpart. This permit renewal does not affect this status.

NESHAPS/MACT/GACT – The Permittee is subject to the following Maximum Achievable Control Technology Standards:

1. **40 CFR 63, Subpart MMMM, National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products** – This Subpart applies to each new, reconstructed, or existing affected source that uses 946 liters (250 gallons) per year, or more, of coatings that contain hazardous air pollutants in the surface coating of miscellaneous metal parts and products and that is located at a major source of emissions of HAPs (40 CFR 63.3881(b)). An existing source is one that commenced construction or reconstruction before **August 12, 2002**. The facility currently operates equipment for the painting of completed diesel engines (**ID Nos. ES-1SB, ES-2SB, ES-3SB, and ES-4SB**). The affected source of the MACT is defined as collection of all items (as listed in 63.3882(b)(1) through (4)) that are used for surface coating of miscellaneous metal parts and products. The Permittee has indicated that they do use more than the threshold quantity of HAP containing coatings. Therefore, they will be required to be in compliance with all applicable portions of the MACT by **January 2, 2007**, for all existing sources per 63.3883(b). This permit renewal does not affect this status. However, the permit has been modified to add the detailed MACT language replacing the generic placeholder language.
2. **40 CFR 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines** – This Subpart applies to each affected source which is defined as any existing, new, or reconstructed stationary RICE located at a major or area source of HAP emissions, excluding stationary RICE being tested at a stationary RICE test cell/stand (40 CFR 63.6590(a)). An existing RICE is one that commenced construction or reconstruction before **December 19, 2002**. The facility currently operates eight diesel generators (**ID Nos. ES-1DG, ES-2DG, ES-4DG through ES-9DG**). All eight of these generators are considered existing compression ignition stationary RICE. Therefore, per 63.6590(b)(3), these generators do not have to meet the requirements of this Subpart and of Subpart A of this part. Additionally, no initial notification is necessary. This permit renewal does not affect this status.
3. **40 CFR 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines** – This Subpart applies to each affected source which is defined as any existing, new, or reconstructed stationary RICE located at a major or area source of HAP emissions, excluding stationary RICE being tested at a stationary RICE test cell/stand (40 CFR 63.6590(a)). A new RICE is one that commenced construction or reconstruction on or after **December 19, 2002**. The facility currently operates one diesel generator (**ID No. ES-3ADG**). This generator is considered a new compression ignition stationary RICE. Per 63.6600(b), “a new or reconstructed compression ignition stationary RICE with a site rating of more than 500 brake horsepower located at a major source of HAP emissions must comply with the emission limitations in Table 2a to this Subpart and the operating limitation in Table 2b to this Subpart which apply to you.” This permit renewal does not affect this status.

PSD – The facility is currently subject to two PSD Avoidance conditions. Specifically the fuel burning sources are subject to a 250 ton per year limit for NO_x and the surface coating and rust prevention operations are subject to a 250 ton per year limit for VOCs. To ensure enforceability of these two conditions, the Permittee must limit the amount of diesel fuel combusted to less than 730,000 gallons per year. In addition, the Permittee shall calculate monthly VOC emissions by multiplying the total amount of each type of VOC containing material consumed during the month by the VOC content of the material. Records for these monitoring requirements must be kept and semi-annual reporting is required. This renewal action does not change this status.

112(r) – The facility is not subject to Section 112(r) of the Clean Air Act requirements because it does not store any of the regulated substances in quantities above the thresholds in the Rule. This permit renewal does not affect this status.

CAM – 40 CFR 64 requires that a continuous compliance assurance monitoring plan be developed for all equipment located at a major facility, that have pre-control emissions above the major source threshold, and use a control device to meet an applicable standard. The following table indicates the current equipment/control device relationships:

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-BBK	One B-block line dry machining press	DCBBK1 through DCBBK6	Six dry cartridge filters (29,040 square feet of filter area, each)
ES-BHD	One B-head line dry machining process	DCBHD1 through DCBHD3	Three dry cartridge filters (19,360 square feet of filter area, each)
ES-CBK	One C-block line dry machining process	DCCBK1 through DCCBK5	Five dry cartridge filters (19,360 square feet of filter area, each)
ES-CHD	One C-head line dry machining process	DCCHD1 through DCCHD3	Three dry cartridge filters (19,360 square feet of filter area, each)
ES-3ADG (MACT, Subpart ZZZZ; NSPS, Subpart III)	One diesel generator (12.33 million Btu per hour maximum heat input capacity, 1850 brake horsepower)	CD-1	Catalytic oxidizer

CAM applicability for the four line dry machining processes (**ID Nos. ES-BBK, ES-BHD, ES-CBK, and ES-CHD**) was discussed as part of the Title V renewal process in 2006 (See Mark Cuilla’s Permit Review Document – **04620T20, August 2, 2006**). During that review it was determined that CAM does not apply to these sources. There have been no changes to this equipment since that earlier demonstration; therefore CAM continues to not apply.

The diesel-fired generator (**ID No. ES-3ADG**) was permitted on **September 1, 2009**. Because that modification was not in of itself a major modification as defined in the CAM guidance, a demonstration of CAM applicability was not completed at that time. The analysis is required as part of this permit renewal.

The following table indicates the regulations applicable to the generator:

Emission Source ID No.	Control Device ID No.	Applicable Regulations	Pollutant
ES-3ADG	CD-1	15A NCAC 2D .0516 15A NCAC 2D .0521 15A NCAC 2D .1100 15A NCAC 2Q .0317 15A NCAC 2D .0524 15A NCAC 2D .1111	Sulfur dioxide Visible emissions NC Air Toxics PSD Avoidance (Nitrogen oxides) NMHC and NO _x , CO, PM, SO ₂ (40 CFR 60, Subpart III) Hazardous air pollutants (40 CFR 63, Subpart ZZZZ)

The following discussion addresses each regulation and its CAM applicability determination:

1. 15A NCAC 2D .0516, Sulfur Dioxide Emissions from Combustion Sources. This regulation limits sulfur dioxide emissions from combustion sources to less than 2.3 pounds per million Btu heat input. Potential uncontrolled sulfur dioxide emissions are estimated to be less than 100 tons per year based on DAQ's diesel combustion spreadsheet and a sulfur content of diesel fuel of less than 0.5% by weight. Therefore, CAM is not applicable to this source.
2. 15A NCAC 2D .0521, Control of Visible Emissions. A CAM demonstration for visible emissions for this regulation is not needed as part of this permit renewal. Visible emissions are not a criteria pollutant.
3. 15A NCAC 2D .1100, Control of Toxic Air Pollutants. A CAM demonstration for NC air toxics for this regulation is not needed as part of this permit renewal. NC air toxics are not a criteria pollutant.
4. 15A NCAC 2Q .0317, Avoidance Conditions (for 15A NCAC 2D .0530, Prevention of Significant Deterioration). A CAM demonstration for nitrogen oxides for this regulation is not needed as part of this permit renewal. 15A NCAC 2D .0614(b)(1) identifies a list of emission limitations or standards in which CAM is not applicable. Specifically, subparagraph (E) notes "an emission cap that is approved under the rules of this Subchapter and Subchapter 15A NCAC 2Q and incorporated in a permit issued under 15A NCAC 2Q .0500." This PSD avoidance condition is an emission cap as described; therefore, CAM is not applicable to this regulation.
5. 15A NCAC 2D .0524, New Source Performance Standards (40 CFR 60, Subpart IIII). A CAM demonstration for NMHC and NO_x, CO, PM, SO₂ is not needed as part of this permit renewal. 15A NCAC 2D .0614(b)(1) identifies a list of emission limitations or standards in which CAM is not applicable. Specifically, subparagraph (A) notes "emission limitations or standards proposed by the Administrator of the Environmental Protection Agency after **November 15, 1990** pursuant to section 111 or 112 of the federal Clean Air Act." Standards of Performance for Stationary Compression Ignition Internal Combustion Engines was promulgated **July 11, 2006**, therefore CAM is not applicable to this regulation.

6. 15A NCAC 2D .1111, Maximum Achievable Control Technology (40 CFR 63, Subpart ZZZZ). A CAM demonstration for hazardous air pollutants is not needed as part of this permit renewal. 15A NCAC 2D .0614(b)(1) identifies a list of emission limitations or standards in which CAM is not applicable. Specifically, subparagraph (A) notes “emission limitations or standards proposed by the Administrator of the Environmental Protection Agency after **November 15, 1990** pursuant to section 111 or 112 of the federal Clean Air Act.” National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines was promulgated **June 15, 2004**, therefore CAM is not applicable to this regulation.

VII. Facility Wide Air Toxics

15A NCAC 2D .1100 - The test stands and paint booths at the facility are subject to source-by-source specific modeled emission rates for benzene, methyl ethyl ketone, ethyl acetate, methyl isobutyl ketone, phenol, toluene, and Xylene per 15A NCAC 2D .1100. To ensure compliance with the emission limits, the Permittee shall not combust more than 730,000 gallons of diesel fuel per consecutive 12-month period. In addition not more than 450,000 gallons of diesel fuel shall be combusted in the combination diesel/biodiesel/natural gas-fired engine test stands per consecutive 12 months. The two dry filter-type paint spray booths shall have exhaust stack heights at least 33 feet high and not employ rain caps. The permit includes quarterly reporting requirements of these operating parameters. This permit renewal does not affect this status.

15A NCAC 2Q .0705 – This regulation requires that the Permittee demonstrate compliance with NC air toxics from all non-exempt equipment for all toxic air pollutants by the same deadline as is required by the last known Maximum Achievable Control Technology standard to apply to the facility (excluding that of the combustion sources). 40 CFR 63, Subpart MMMM is the last MACT to apply. The current permit includes placeholder language with this requirement. This language has been modified in this permit renewal to add language specifying the date of the facility-wide demonstration’s date. The Permittee has identified the **July 3, 1997** submittal as the original submittal (DAQ has reviewed subsequent demonstrations in 1999 and 2000). The original submittal represented a facility-wide demonstration and included combustion sources and was submitted at a time when the facility was completing a paint reformulation; thereby increasing potential hazardous air pollutant emissions.

15A NCAC 2D .1109 – The natural gas, indirect-fired combustion sources at the facility are subject to the Case-by-Case Maximum Achievable Control Technology standards for boilers and process heaters. To assure compliance, the Permittee shall perform annual source inspection and maintenance and use best combustion practices. Compliance with these requirements is due **March 2, 2013**. The permit also includes monitoring, recordkeeping, and reporting requirements. This permit renewal does not affect this status.

VIII. Facility Emissions Review

The following table represents the latest years' emission inventories from the facility:

Pollutant(s)	2007 Actual Emissions (tpy)	2008 Actual Emissions (tpy)
CO	34.11	35.04
NO _x	153.92	157.79
PM ₁₀	14.63	14.58
SO ₂	8.92	9.11
VOC	104.81	96.85
Total HAP/TAP	5.63	4.54

IX. Stipulation Review

The facility was last inspected by Will Wike of the RRO on **July 15, 2009**. At that time, the facility "appeared to be in compliance with the applicable air quality regulations."

X. Public Notice/EPA and Affected State(s) Review

Pursuant to 15A NCAC 2Q .0521, a notice of the DRAFT Title V Permit shall be placed in a newspaper of general circulation in the area where the facility is located. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 2Q .0522, a copy of each permit application, each proposed permit and each final permit shall be provided to EPA. Also pursuant to 2Q .0522, a notice of the DRAFT Title V Permit shall be provided to each affected State at or before the time notice provided to the public under 2Q .0521 above. The State of Virginia is an affected area within 50 miles of the facility.

XI. Conclusions, Comments, and Recommendations

A professional engineer's seal was not required for this renewal.

A consistency determination was not required for this renewal.

RRO recommends issuance of the permit and **was presented** with a DRAFT permit prior to notice and issuance.

RCO concurs with RRO's recommendation to issue the renewed air permit.