Mr. J Riley Dollens
Cummins Engine Company, Inc.
1532 East 14th Street
Mail Code 20803, Box 3005
Columbus, Indiana 47201

Re: 005-10625
Permit Modification to CP 005-4995,
Plt ID 005-00069

Dear Mr. Dollens:

Cummins Engine Company, Inc., was issued a permit on February 12, 1996 for the construction and operation of a diesel engine preparation and testing facility. A letter requesting the removal of the stack testing requirement (Operation Condition No. 3 of CP-005-4995) for the engine test cells was received on February 4, 1999. Additional requests to amend the facility descriptions was received on June 15, 1999.

The Office of Air Management (OAM) has amended the Description Section on Page 2 of 5 of CP 005-4995 to read as follows:

1. Twenty (20) diesel engine testing cells, identified as S1-S20,

2. Two (2) metal inert gas (MIG) welding stations, stack identification numbers E4 and E8, each with a maximum electrode usage rate of 0.2 pounds per hour,

3. Four (4) solvent parts washers, stack identification numbers PW1-PW4,

4. One (1) surface coating spray booth, stack identification numbers E6, applying coatings at a maximum rate of 0.03 gal/hr, with particulate matter (PM) overspray emissions controlled by a dry filter system, and

5. Two (2) 10,000 gallon vertical dome roof diesel fuel storage tanks.

The OAM has removed the stack testing requirement stated in Operation Condition No. 3 of CP-005-4995. Operation Condition No. 3 shall be replaced with fuel usage limitations for the engine test cells to demonstrate that the Prevention of Significant Deterioration rules do not apply:

3. That to avoid the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration), the annual diesel fuel usage from the twenty (20) diesel engine test cells shall be limited to 811,700 gallons per year, rolled on a monthly basis. This limitation is equivalent to 247.5 tons of NOx per year and 4.4 pounds of NOx per MMBtu. The Permittee shall maintain monthly fuel usage records for the mechanical and performance diesel engine test cells at the source location for a minimum period of 36 months to demonstrate compliance. These records shall be made available within one (1) hour upon verbal request of an IDEM, OAM representative. A quarterly report of the fuel usage shall be submitted to:

Indiana Department of Environmental Management
Office of Air Management, Compliance Data Section
100 North Senate Avenue, **P.O. Box 6015**
Indianapolis, Indiana 46206-6015

within 30 days after the end of the quarter being reported in the format attached.

The OAM has removed Operation Condition Nos. 6 and 8 of CP-005-4995 because the wood/metal working facilities have been permanently removed from the plant.

All other conditions of the permit shall remain unchanged and in effect. Please attach a copy of this permit modification with the original permit.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Management

MMW

cc: File - Bartholomew County
Air Compliance Section Inspector - D.J. Knotts
Compliance Data Section - Mindy Jones
Permit Tracking - Janet Mobley
Air Programs Section - Michelle Boner

Indiana Department of Environmental Management
Office of Air Management
Compliance Data Section
Quarterly Report

Company Name: Cummins Engine Company, Inc.
Location: 1532 East 14th Street, Columbus, Indiana 47201
Permit No.: CP 005-10625, Permit Modification to CP 005-4995-00069
Source/Facility: Twenty (20) Diesel Engine Test Cells
Limits: 811,700 gallons of diesel fuel/year, rolled on a monthly basis

YEAR: _____

Month	Fuel Usage this Month (gallons/month)	Fuel Usage Last 12 Months (gallons/year)

Submitted by: _____

Signature: _____

Title / Position: _____

Date: _____

Indiana Department of Environmental Management
Office of Air Management

Technical Support Document (TSD)

Source Description and Permit Modification Request

Source Name:	Cummins Engine Company, Inc.
Source Location:	1532 East 14th Street, Columbus, Indiana 46312
County:	Bartholomew
Construction Permit No.:	005-10625-00069, Permit Modification to CP-005-4995-00069
SIC Code:	3519
Permit Reviewer:	Michele M. Williams

The Office of Air Management (OAM) has reviewed a request submitted by Cummins Engine Company, Inc., on February 4, 1999, relating to the construction and operation of a diesel engine preparation and testing facility permitted under CP-005-4995-00069.

During the review process for CP-005-4995, the OAM approved an alternate emission factor to calculate the NOx potential to emit from the diesel engine test cells. As a result, the OAM required a stack testing condition in the permit to validate the alternate emission factor for the diesel engine test cells. The OAM denied the stack test protocol submitted by the company, which requested the use of an alternate stack test method to demonstrate compliance with the alternate emission factor. Therefore, the company submitted a request to remove the stack testing condition from the permit.

Upon OAM review of this request, two options were made available to demonstrate that PSD does not apply:

(1) Conduct a NOx stack test utilizing a stack test method approved by this department to demonstrate that PSD does not apply; or

(2) Use the EPA AP-42 emission f actor to calculate NOx emissions, and take a fuel usage limit to avoid PSD review.

Cummins opted to take a fuel usage limit of 811,700 gallons per year for the engine test cells. This fuel usage limit correlates to a limited PTE of 247.5 tons per year to avoid PSD review.

The following additional requests were submitted by Cummins on June 15, 1999 and addressed by OAM:

(1) Request: The “mechanical” and “performance” test cells are physically the same. In the original permit, this differentiation was made because the “mechanical” and “performance” test cells operated under different testing protocols and alternate emission factors for each scenerio were used. Because alternate emission factors are no longer being used, Cummins requests that the description be changed to eliminate this distinction.

Determination: The OAM has removed the distinction between the “mechanical” and “performance” test cells in the amendment and supporting documentation.

(2) Request: Three outside test cells have been eliminated. Therefore, Cummins requests that the description be changed to reflect that there are only twenty test cells at the facility.

Determination: The OAM has made this description change to the test cells in the amendment and supporting documentation.

(3) Request: Delete references to the three outdoor mechanical test cells, natural gas-fired boilers, wood/metal working area, gluing machines, and one of the surface coating booths since this equipment is no longer used at Cummins. Cummins also requests that the OAM adjust the calculations.

Determination: The OAM has amended the description section of the permit to reflect the current operations. OAM will not adjust any of the calculations for the three outdoor mechanical test cells, natural gas-fired boilers, wood/metal working area, glue machines, and surface coating booth because these facilities had at one time been constructed and operated. The facilities that have been removed can be used as emission credits if meets the requirements of 326 IAC 2-2.

Emission Calculations

The original emission calculations were based on alternate emission factors developed for similar test engines using alternate testing methods. Based on these emission factors, the calculated NOx potential to emit was less than the PSD significant threshold level. As a result, no emission limit was established in the permit; however, stack testing using IDEM, OAM approved methods was required to verify the alternate emission factors. Because the IDEM, OAM did not approve the alternate stack testing method and would not remove the stack testing requirement to verify the alternate emission factor, the company requested IDEM, OAM to use the AP-42 emission factor and reevaluate the necessary requirements of the permit.

The revised emission calculations are based on EPA AP-42 emission factors for internal combustion engines. The detailed emission calculations, included in Appendix A, show the NOx potential to emit (PTE) is greater than the PSD significant threshold level (250 tons per year). To avoid PSD review, the company requested the PTE be limited below the significant threshold level (247.5 tons per year). The emission calculations also show the fuel usage limit that correlates to the limited NOx PTE.

Rule Applicability

326 IAC 2-1 (State Permit Requirements)
This permit modification does not increase allowable emissions at the source, and therfore does not fall within the definition of a source modification [326 IAC 1-2-42] applicable to state permitting requirements [326 IAC 2-1-1].

326 IAC 2-7 (Part 70 Permit Program)
This existing source has submitted their Part 70 application (T-005-7068-00069) on October 31, 1996. This permit modification shall be incorporated in the submitted Part 70 application.

Recommendation

The staff recommends to the Commissioner that Operation Condition No. 3 of CP-005-4995 be modified as follows to replace the stack testing requirements with fuel usage limits for the engine test cells to demonstrate that the Prevention of Significant Deterioration rules do not apply (bold-face characters represent language that has been added to the condition and strikeout characters represent language that has been removed from the condition):

3. ~~That pursuant to 326 IAC 2-1-3(i)(8) (Construction and Operating Permit Requirements), compliance stack tests shall be performed for oxides of nitrogen (NOx) within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up. These tests shall be performed according to 326 IAC 3-2.1 (Source Sampling Procedures) using the methods specified in the rule or as approved by the Commissioner. The Office of Air Management (AOM) shall be notified of the actual test date at least two (2) weeks prior to the date, a test protocol shall be submitted to the OAM, Compliance Data Section, 35 days in advance of the test, and all test reports must be received by the OAM within 45 days of completion of the testing, pursuant to that rule.~~ **That to avoid the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration), the annual diesel fuel usage from the twenty (20) diesel engine test cells shall be limited to 811,700 gallons per year, rolled on a monthly basis. This limitation is equivalent to 247.5 tons of NOx per year and 4.4 pounds of NOx per MMBtu. The Permittee shall maintain monthly fuel usage records for the mechanical and performance diesel engine test cells at the source location for a minimum period of 36 months to demonstrate compliance. These records shall be made available within one (1) hour upon verbal request of an IDEM, OAM representative. A quarterly report of the fuel usage shall be submitted to:**

Indiana Department of Environmental Management
Office of Air Management, Compliance Data Section
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

within 30 days after the end of the quarter being reported in the format attached.

The staff recommends to the Commissioner that the following amendments be made to the Description Section on Page 2 of 5 of CP-005-4995-00069 to reflect the current operations at the plant:

1. **Twenty (20) diesel engine testing cells, identified as S1-S20,** ~~two (2) 1.68 million (MM) Btu/hr natural gas-fired hot water boilers, designated as B1 and B2;~~

~~2. fifteen (15) inside performance diesel engine testing cells, stack identification numbers 1-15, testing diesel engines with a maximum capacity of 0.65 million (MM) Btu/hr,~~

~~3. three (3) inside mechanical diesel engine testing cells, stack identification numbers 16-18, testing diesel engines with a maximum capacity of 1.85 million (MM) Btu/hr,~~

~~4. two (2) outside performance diesel engine testing cells, stack identification numbers 19-20, testing diesel engines with a maximum capacity of 0.65 million (MM) Btu/hr,~~

~~5. three (3) outside mechanical diesel engine testing cells, stack identification numbers 21-23, testing diesel engines with a maximum capacity of 1.85 million (MM) Btu/hr,~~

~~6. One (1) wood/metal working area, stack identification number E3, with particulate matter (PM) emissions controlled by a Torit cyclone,~~

~~7.~~ **2.** Two (2) metal inert gas (MIG) welding stations, stack identification numbers E4 and E8, each with a maximum electrode usage rate of 0.2 pounds per hour,

~~8. Two (2) gluing machines, with emissions exhausted trhough one (1) stack identified as E1,~~

~~9.~~ **3.** Four (4) solvent parts washers, stack identification numbers PW1-PW4,

~~10.~~ **4.** One (1) surface coating spray booth, stack identification numbers E6, applying coatings at a maximum rate of 0.03 gal/hr, with particulate matter (PM) overspray emissions controlled by a dry filter system, **and**

~~11. one (1) surface coating spray booth, stack identification numbers E7, applying coatings at a maximum rate of 0.02 gal/hr, with particulate matter (PM) overspray emissions controlled by a dry filter system, and~~

~~12.~~ **5.** Two (2) 10,000 gallon vertical dome roof diesel fuel storage tanks~~, with a maximum throughput of 113,000 gallons per year, each~~.

The staff recommends to the Commissioner that Operation Condition Nos. 6 and 8 of CP-005-4995-00069 be removed from the permit because these facilities have been removed from the plant:

~~6. That pursuant to 326 IAC 6-3 (Process Operations), the wood/metal working area Torit Cyclone shall be in operation at all times when wood/metal working process is in operation, and shall not exceed the allowable particulate matter (PM) emission rate of 0.06 pounds per hour.~~

~~8. That the visible particulate matter (PM) emissions from the wood/metal working areas shall not exceed 10% opacity and that fugitive dust complies with 326 IAC 6-4 (Fugitive Dust Emissions). This opacity limit shall supersede the wood/metal working area opacity limitation of Operation Condition 5.~~

Conclusion

The permit modification, 005-10625, to construction permit CP-005-4995 shall be issued to Cummins Engine.