PART 70 OPERATING PERMIT
and ENHANCED NEW SOURCE REVIEW
OFFICE OF AIR MANAGEMENT

Cummins Engine Company, Columbus Technical Center - Plant 5
1900 McKinley Avenue
Columbus, Indiana 47201

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 and 326 IAC 2-1-3.2 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: T 005-7466-00002	
Issued by: Janet G. McCabe, Assistant Commissioner Office of Air Management	Issuance Date:

SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

The Permittee owns and operates a stationary research and development source for diesel-powered engines.

Responsible Official:	John C. Wall
Source Address:	1900 McKinley Avenue, Columbus, Indiana 47201
Mailing Address:	P.O. Box 3005 - MC 50235
SIC Code:	8734
County Location:	Bartholomew
County Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program Major Source, under PSD Rules; Major Source, Section 112 of the Clean Air Act.

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

(a) Three (3) natural gas or diesel-fired boilers known as Boiler #1 installed in 1964, Boiler #2 installed in 1964, and Boiler #3 installed in 1964, exhausting at one (1) stack, identified as Stack 1, rated at 25 million British thermal units per hour, each.

(b) Two (2) natural gas or diesel-fired boilers known as Boiler #4 installed in 1969 and Boiler #5 installed in 1973, exhausting at one (1) stack, identified as Stack 1, rated at 14.6 million British thermal units per hour, each.

(c) Forty-eight (48) diesel-powered engine test cells known as 101-122, 216-218, 301-322, and 401, exhausted through stacks 101-122, 216-218, 301-322, and 401, respectively, rated at 500 horsepower, each. Five (5) of the test cells, known as 318-322, may be alternately powered by liquid propane gas and eleven (11) of the test cells, known as 121, 122, 303, 316-322, and 401 may be alternately powered by natural gas.

(d) Twenty-one (21) diesel-powered engine test cells known as 201-215, 219, 402, 403, and 417-419, exhausted through stacks 201-215, 219, 402, 403, and 417-419, respectively, rated at 1000 horsepower, each. Five (5) of the test cells, known as 203, 204, and 417-419, may be alternately powered by liquid propane gas or natural gas.

(e) Eleven (11) diesel-powered engine test cells known as 220-222, 404-409, 421, and 422, exhausted through stacks 220-222, 404-409, 421, and 422, respectively, rated at 1500 horsepower, each. One (1) of the test cells, known as 220, may be alternately powered by liquid propane gas or natural gas.

(f) Seven (7) diesel-powered engine test cells known as 410-415, and 420, exhausted through stacks 410-415, and 420, respectively, rated at 2000 horsepower, each. One (1) of the test cells, known as 420, may be alternately powered by liquid propane gas. Two (2) of the test cells known as 410 and 414 may be alternately powered by natural gas.

(g) One (1) diesel-powered engine test cell known as 416, exhausted through stack 416, rated at 3000 horsepower.

(h) One (1) diesel-powered engine test cell known as 423, constructed prior to January 1, 1994, exhausted through stack 401, rated at 500 horsepower.

(i) Four (4) diesel-powered engine turbo test cells known as 711-714, constructed prior to January 1, 1994, exhausted through stacks 711-714, rated at 600 horsepower, each.

(j) One (1) diesel-powered engine turbo test cell known as 715, constructed prior to January 1, 1994, exhausted through stack 715, rated at 300 horsepower.

(k) One (1) electrically-powered engine turbo test cell known as 716, constructed prior to January 1, 1994, exhausted through stack 716, rated at 200 horsepower.

(l) Two (2) diesel-powered chassis dynamometer test cells known as Test Cell 731 and Test Cell 732, constructed prior to January 1, 1994, exhausted through stack CD, rated at 500 horsepower, each.

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6 (Trichloroethylene degreaser, D-1, with a maximum throughput to 120 gallons per 12 months).

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

(a) It is a major source, as defined in 326 IAC 2-7-1(22);

(b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION B GENERAL CONDITIONS

B.1 Permit No Defense [326 IAC 2-1-10] [IC 13]

(a) Indiana statutes from IC 13 and rules from 326 IAC, quoted in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a Part 70 permit under 326 IAC 2-7.

(b) This prohibition shall not apply to alleged violations of applicable requirements for which the Commissioner has granted a permit shield in accordance with 326 IAC 2-1-3.2 or 326 IAC 2-7-15, as set out in this permit in the Section B condition entitled "Permit Shield."

B.2 Definitions [326 IAC 2-7-1]

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, any applicable definitions found in IC 13-11, 326 IAC 1-2 and 326 IAC 2-7 shall prevail.

B.3 Permit Term [326 IAC 2-7-5(2)]

This permit is issued for a fixed term of five (5) years from the effective date, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3.

B.4 Enforceability [326 IAC 2-7-7(a)]

(a) All terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM.

(b) Unless otherwise stated, terms and conditions of this permit, including any provisions to limit the source's potential to emit, are enforceable by the United States Environmental Protection Agency (U.S. EPA) and citizens under the Clean Air Act.

B.5 Termination of Right to Operate [326 IAC 2-7-10] [326 IAC 2-7-4(a)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-7-3 and 326 IAC 2-7-4(a).

B.6 Severability [326 IAC 2-7-5(5)]

The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

B.7 Property Rights or Exclusive Privilege [326 IAC 2-7-5(6)(D)]

This permit does not convey any property rights of any sort, or any exclusive privilege.

B.8 Duty to Supplement and Provide Information [326 IAC 2-7-4(b)] [326 IAC 2-7-5(6)(E)]

(a) The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information to:

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

(b) The Permittee shall furnish to IDEM, OAM, within a reasonable time, any information that IDEM, OAM, may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit.

(c) Upon request, the Permittee shall also furnish to IDEM, OAM, copies of records required to be kept by this permit. If the Permittee wishes to assert a claim of confidentiality over any of the furnished records, the Permittee must furnish such records to IDEM, OAM, along with a claim of confidentiality under 326 IAC 17. If requested by IDEM, OAM, or the U.S. EPA, to furnish copies of requested records directly to U. S. EPA, and if the Permittee is making a claim of confidentiality regarding the furnished records, then the Permittee must furnish such confidential records directly to the U.S. EPA along with a claim of confidentiality under 40 CFR 2, Subpart B.

B.9 Compliance with Permit Conditions [326 IAC 2-7-5(6)(A)] [326 IAC 2-7-5(6)(B)]

(a) The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit constitutes a violation of the Clean Air Act and is grounds for:

(1) Enforcement action;

(2) Permit termination, revocation and reissuance, or modification; or

(3) Denial of a permit renewal application.

(b) It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

B.10 Certification [326 IAC 2-7-4(f)] [326 IAC 2-7-6(1)]

(a) Any application form, report, or compliance certification submitted under this permit shall contain certification by a responsible official of truth, accuracy, and completeness. This certification, and any other certification required under this permit, shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) One (1) certification shall be included, on the attached Certification Form, with each submittal.

(c) A responsible official is defined at 326 IAC 2-7-1(34).

B.11 Annual Compliance Certification [326 IAC 2-7-6(5)]

(a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. The certification shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted in letter form no later than July 1 of each year to:

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

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

(b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAM, on or before the date it is due.

(c) The annual compliance certification report shall include the following:

(1) The identification of each term or condition of this permit that is the basis of the certification;

(2) The compliance status;

(3) Whether compliance was based on continuous or intermittent data;

(4) The methods used for determining compliance of the source, currently and over the reporting period consistent with 326 IAC 2-7-5(3);

(5) Any insignificant activity that has been added without a permit revision; and

(6) Such other facts, as specified in Sections D of this permit, as IDEM, OAM, may require to determine the compliance status of the source.

The submittal by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

B.12 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)] [326 IAC 2-7-6(1) and (6)] [326 IAC 1-6-3]

(a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMP) within ninety (90) days after issuance of this permit, including the following information on each facility:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions;

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If due to circumstances beyond its control, the PMP cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

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

(b) The Permittee shall implement the Preventive Maintenance Plans as necessary to ensure that lack of proper maintenance does not cause or contribute to a violation of any limitation on emissions or potential to emit.

(c) PMP's shall be submitted to IDEM, OAM, upon request and shall be subject to review and approval by IDEM, OAM.

B.13 Emergency Provisions [326 IAC 2-7-16]

(a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation, except as provided in 326 IAC 2-7-16.

(b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a health-based or technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:

(1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;

(2) The permitted facility was at the time being properly operated;

(3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;

(4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAM, within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Management, Compliance Section), or
Telephone Number: 317-233-5674 (ask for Compliance Section)
Facsimile Number: 317-233-5967

(5) For each emergency lasting one (1) hour or more, the Permittee submitted notice, either in writing or facsimile, of the emergency to:

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

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-7-5(3)(C)(ii) and must contain the following:

(A) A description of the emergency;

(B) Any steps taken to mitigate the emissions; and

(C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

(6) The Permittee immediately took all reasonable steps to correct the emergency.

(c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

(d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions) for sources subject to this rule after the effective date of this rule. This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.

(e) IDEM, OAM, may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4-(c)(9) be revised in response to an emergency.

(f) Failure to notify IDEM, OAM, by telephone or facsimile of an emergency lasting more than one (1) hour in compliance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.

(g) Operations may continue during an emergency only if the following conditions are met:

(1) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.

(2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:

(A) The Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and

(B) Continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value.

Any operation shall continue no longer than the minimum time required to prevent the situations identified in (g)(2)(B) of this condition.

B.14 Permit Shield [326 IAC 2-7-15]

(a) This condition provides a permit shield as addressed in 326 IAC 2-7-15.

(b) This permit shall be used as the primary document for determining compliance with applicable requirements established by previously issued permits. Compliance with the conditions of this permit shall be deemed in compliance with any applicable requirements as of the date of permit issuance, provided that:

(1) The applicable requirements are included and specifically identified in this permit; or

(2) The permit contains an explicit determination or concise summary of a determination that other specifically identified requirements are not applicable.

(c) If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement that applied to the source on the date of permit issuance, including any term or condition from a previously issued construction or operation permit, IDEM, OAM, shall immediately take steps to reopen and revise this permit and issue a compliance order to the Permittee to ensure expeditious compliance with the applicable requirement until the permit is reissued. The permit shield shall continue in effect so long as the Permittee is in compliance with the compliance order.

(d) No permit shield shall apply to any permit term or condition that is determined after issuance of this permit to have been based on erroneous information supplied in the permit application.

(e) Nothing in 326 IAC 2-7-15 or in this permit shall alter or affect the following:

(1) The provisions of Section 303 of the Clean Air Act (emergency orders), including the authority of the U.S. EPA under Section 303 of the Clean Air Act;

(2) The liability of the Permittee for any violation of applicable requirements prior to or at the time of this permit's issuance;

(3) The applicable requirements of the acid rain program, consistent with Section 408(a) of the Clean Air Act; and

(4) The ability of U.S. EPA to obtain information from the Permittee under Section 114 of the Clean Air Act.

(f) This permit shield is not applicable to any change made under 326 IAC 2-7-20(b)(2) (Sections 502(b)(10) of the Clean Air Act changes) and 326 IAC 2-7-20(c)(2) (trading based on State Implementation Plan (SIP) provisions).

(g) This permit shield is not applicable to modifications eligible for group processing until after IDEM, OAM, has issued the modifications. [326 IAC 2-7-12(c)(7)]

(h) This permit shield is not applicable to minor Part 70 permit modifications until after IDEM, OAM, has issued the modification. [326 IAC 2-7-12(b)(8)]

B.15 Multiple Exceedances [326 IAC 2-7-5(1)(E)]

Any exceedance of a permit limitation or condition contained in this permit, which occurs contemporaneously with an exceedance of an associated surrogate or operating parameter established to detect or assure compliance with that limit or condition, both arising out of the same act or occurrence, shall constitute a single potential violation of this permit.

B.16 Deviations from Permit Requirements and Conditions [326 IAC 2-7-5(3)(C)(ii)]

(a) Deviations from any permit requirements (for emergencies see Section B - Emergency Provisions), the probable cause of such deviations, and any response steps or preventive measures taken shall be reported to:

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

within ten (10) calendar days from the date of the discovery of the deviation.

(b) A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit or a rule. It does not include:

(1) An excursion from compliance monitoring parameters as identified in Section D of this permit unless tied to an applicable rule or limit; or

(2) An emergency as defined in 326 IAC 2-7-1(12); or

(3) Failure to implement elements of the Preventive Maintenance Plan unless lack of maintenance has caused or contributed to a deviation.

(4) Failure to make or record information required by the compliance monitoring provisions of Section D unless such failure exceeds 5% of the required data in any calendar quarter.

A Permittee's failure to take the appropriate response step when an excursion of a compliance monitoring parameter has occurred is a deviation.

(c) Written notification shall be submitted on the attached Emergency/Deviation Occurrence Reporting Form or its substantial equivalent. The notification does not need to be certified by the "responsible official" as defined by 326 IAC 2-7-1(34).

(d) Proper notice submittal under 326 IAC 2-7-16 satisfies the requirement of this subsection.

B.17 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-7-5(6)(C)] [326 IAC 2-7-8(a)] [326 IAC 2-7-9]

(a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Part 70 permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-7-5(6)(C)]

(b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAM, determines any of the following:

(1) That this permit contains a material mistake.

(2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.

(3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-7-9(a)(3)]

(c) Proceedings by IDEM, OAM, to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-7-9(b)]

(d) The reopening and revision of this permit, under 326 IAC 2-7-9(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAM, at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAM, may provide a shorter time period in the case of an emergency. [326 IAC 2-7-9(c)]

B.18 Permit Renewal [326 IAC 2-7-4]

(a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAM, and shall include the information specified in 326 IAC 2-7-4. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40).

Request for renewal shall be submitted to:

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

(b) Timely Submittal of Permit Renewal [326 IAC 2-7-4(a)(1)(D)]

(1) A timely renewal application is one that is:

(A) Submitted at least nine (9) months prior to the date of the expiration of this permit; and

(B) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAM, on or before the date it is due. [326 IAC 2-5-3]

(2) If IDEM, OAM, upon receiving a timely and complete permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, including any permit shield provided in 326 IAC 2-7-15, until the renewal permit has been issued or denied.

(c) Right to Operate After Application for Renewal [326 IAC 2-7-3]
If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-7 until IDEM, OAM,, takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified in writing by IDEM, OAM, any additional information identified as being needed to process the application.

(d) United States Environmental Protection Agency Authority [326 IAC 2-7-8(e)]
If IDEM, OAM, fails to act in a timely way on a Part 70 permit renewal, the U.S. EPA may invoke its authority under Section 505(e) of the Clean Air Act to terminate or revoke and reissue a Part 70 permit.

B.19 Permit Amendment or Modification [326 IAC 2-7-11] [326 IAC 2-7-12]

(a) The Permittee must comply with the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this permit.

(b) Any application requesting an amendment or modification of this permit shall be submitted to:

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

Any such application should be certified by the "responsible official" as defined by 326 IAC 2-7-1(34) only if a certification is required by the terms of the applicable rule

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.20 Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-7-5(8)] [326 IAC 2-7-12 (b)(2)]

(a) No Part 70 permit revision shall be required under any approved economic incentives, marketable Part 70 permits, emissions trading, and other similar programs or processes for changes that are provided for in a Part 70 permit.

(b) Notwithstanding 326 IAC 2-7-12(b)(1)(D)(i) and 326 IAC 2-7-12(c)(1), minor Part 70 permit modification procedures may be used for Part 70 modifications involving the use of economic incentives, marketable Part 70 permits, emissions trading, and other similar approaches to the extent that such minor Part 70 permit modification procedures are explicitly provided for in the applicable State Implementation Plan (SIP) or in applicable requirements promulgated or approved by the U.S. EPA.

B.21 Changes Under Section 502(b)(10) of the Clean Air Act [326 IAC 2-7-20(b)]

The Permittee may make Section 502(b)(10) of the Clean Air Act changes (this term is defined at 326 IAC 2-7-1(36)) without a permit revision, subject to the constraint of 326 IAC 2-7-20(a) and the following additional conditions:

(a) For each such change, the required written notification shall include a brief description of the change within the source, the date on which the change will occur, any change in emissions, and any permit term or condition that is no longer applicable as a result of the change.

(b) The permit shield, described in 326 IAC 2-7-15, shall not apply to any change made under 326 IAC 2-7-20(b).

B.22 Operational Flexibility [326 IAC 2-7-20]

(a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-7-20(b), (c), or (e), without a prior permit revision, if each of the following conditions is met:

(1) The changes are not modifications under any provision of Title I of the Clean Air Act;

(2) Any approval required by 326 IAC 2-1 has been obtained;

(3) The changes do not result in emissions which exceed the emissions allowable under this permit (whether expressed herein as a rate of emissions or in terms of total emissions);

(4) The Permittee notifies the:

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

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and

(5) The Permittee maintains records on-site which document, on a rolling five (5) year basis, all such changes and emissions trading that are subject to 326 IAC 2-7-20(b), (c), or (e) and makes such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAM, in the notices specified in 326 IAC 2-7-20(b), (c)(1), and (e)(2).

(b) For each such Section 502(b)(10) of the Clean Air Act change, the required written notification shall include the following:

(1) A brief description of the change within the source;

(2) The date on which the change will occur;

(3) Any change in emissions; and

(4) Any permit term or condition that is no longer applicable as a result of the change.

The notification which shall be submitted by the Permittee does not require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

(c) Emission Trades [326 IAC 2-7-20(c)]
The Permittee may trade increases and decreases in emissions in the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-7-20(c).

(d) Alternative Operating Scenarios [326 IAC 2-7-20(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-7-5(9). No prior notification of IDEM, OAM, or U.S. EPA is required.

(e) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

B.23 Construction Permit Requirement [326 IAC 2]
Except as allowed by Indiana P.L. 130-1996 Section 12, as amended by P.L. 244-1997, modification, construction, or reconstruction shall be approved as required by and in accordance with 326 IAC 2.

B.24 Inspection and Entry [326 IAC 2-7-6(2)]
Upon presentation of proper identification cards, credentials, and other documents as may be required by law, the Permittee shall allow IDEM, OAM, U.S. EPA, or an authorized representative to perform the following:

(a) Enter upon the Permittee's premises where a Part 70 source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

(b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

(c) Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

(d) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and

(e) Utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements. [326 IAC 2-7-6(6)]

(1) The Permittee may assert a claim that, in the opinion of the Permittee, information removed or about to be removed from the source by IDEM, OAM, or an authorized representative, contains information that is confidential under IC 5-14-3-4(a). The claim shall be made in writing before or at the time the information is removed from the source. In the event that a claim of confidentiality is so asserted, neither IDEM, OAM, nor an authorized representative, may disclose the information unless and until IDEM, OAM, makes a determination under 326 IAC 17-1-7 through 326 IAC 17-1-9 that the information is not entitled to confidential treatment and that determination becomes final. [IC 5-14-3-4; IC 13-14-11-3; 326 IAC 17-1-7 through 326 IAC 17-1-9]

(2) The Permittee, and IDEM, OAM, acknowledge that the federal law applies to claims of confidentiality made by the Permittee with regard to information removed or about to be removed from the source by U.S. EPA. [40 CFR Part 2, Subpart B]

B.25 Transfer of Ownership or Operation [326 IAC 2-1-6] [326 IAC 2-7-11]

Pursuant to 326 IAC 2-1-6 and 326 IAC 2-7-11:

(a) In the event that ownership of this source is changed, the Permittee shall notify IDEM, OAM, Permits Branch, within thirty (30) days of the change. Notification shall include a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the Permittee and the new owner.

(b) The written notification shall be sufficient to transfer the permit to the new owner by an administrative amendment pursuant to 326 IAC 2-7-11. The notification which shall be submitted by the Permittee does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) IDEM, OAM, shall reserve the right to issue a new permit.

B.26 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)]

(a) The Permittee shall pay annual fees to IDEM, OAM, within thirty (30) calendar days of receipt of a billing. If the Permittee does not receive a bill from IDEM, OAM the applicable fee is due April 1 of each year.

(b) Failure to pay may result in administrative enforcement action, or revocation of this permit.

(c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-0425 (ask for OAM, Technical Support and Modeling Section), to determine the appropriate permit fee.

B.27 Enhanced New Source Review [326 IAC 2]

The requirements of the construction permit rules in 326 IAC 2 are satisfied by this permit for any previously unpermitted facilities and facilities to be constructed within eighteen (18) months after the date of issuance of this permit, as listed in Sections A.2 and A.3.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-7-5(1)]

C.1 Major Source

Pursuant to 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21, this source is a major source.

C.2 Particulate Matter Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) pounds per hour [326 IAC 6-3-2(c)]

Pursuant to 326 IAC 6-3-2(c), the allowable particulate matter emissions rate from any process not already regulated by 326 IAC 6-1 or any New Source Performance Standard, and which has a maximum process weight rate less than 100 pounds per hour shall not exceed 0.551 pounds per hour.

C.3 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.4 Open Burning [326 IAC 4-1] [IC 13-17-9]

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1. 326 IAC 4-1-3 (a)(2)(A) and (B) are not federally enforceable.

C.5 Incineration [326 IAC 4-2] [326 IAC 9-1-2]

The Permittee shall not operate an incinerator or incinerate any waste or refuse except as provided in 326 IAC 4-2 and 326 IAC 9-1-2.

C.6 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

C.7 Operation of Equipment [326 IAC 2-7-6(6)]

All air pollution control equipment listed in this permit and used to comply with an applicable requirement shall be operated at all times that the emission units vented to the control equipment are in operation.

C.8 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61.140]

(a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.

(b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:

(1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or

(2) If there is a change in the following:

(A) Asbestos removal or demolition start date;

(B) Removal or demolition contractor; or

(C) Waste disposal site.

(c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).

(d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

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

The notifications do not require a certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(e) Procedures for Asbestos Emission Control
The Permittee shall comply with the emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-4 emission control requirements are mandatory for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.

(f) Indiana Accredited Asbestos Inspector
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement that the inspector be accredited is federally enforceable.

Testing Requirements [326 IAC 2-7-6(1)]

C.9 Performance Testing [326 IAC 3-6]

(a) All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing methods approved by IDEM, OAM.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

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

no later than thirty-five (35) days prior to the intended test date. The Permittee shall submit a notice of the actual test date to the above address so that it is received at least two weeks prior to the test date.

(b) All test reports must be received by IDEM, OAM within forty-five (45) days after the completion of the testing. An extension may be granted by the Commissioner, if the source submits to IDEM, OAM, a reasonable written explanation within five (5) days prior to the end of the initial forty-five (45) day period.

The documentation submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Compliance Monitoring Requirements [326 IAC 2-7-5(1)] [326 IAC 2-7-6(1)]

C.10 Compliance Schedule [326 IAC 2-7-6(3)]

The Permittee:

(a) Has certified that all facilities at this source are in compliance with all applicable requirements; and

(b) Has submitted a statement that the Permittee will continue to comply with such requirements; and

(c) Will comply with such applicable requirements that become effective during the term of this permit.

C.11 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

Compliance with applicable requirements shall be documented as required by this permit. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment, no more than ninety (90) days after receipt of this permit. If due to circumstances beyond its control, this schedule cannot be met, the Permittee may extend compliance schedule an additional ninety (90) days provided the Permittee notifies:

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

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

C.12 Monitoring Methods [326 IAC 3]

Any monitoring or testing performed to meet the applicable requirements of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, or other approved methods as specified in this permit.

Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]

C.13 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

(a) The Permittee shall prepare written emergency reduction plans (ERPs) consistent with safe operating procedures.

(b) These ERPs shall be submitted for approval to:

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

within ninety (90) days after the date of issuance of this permit.

The ERP does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) If the ERP is disapproved by IDEM, OAM, the Permittee shall have an additional thirty (30) days to resolve the differences and submit an approvable ERP.

(d) These ERPs shall state those actions that will be taken, when each episode level is declared, to reduce or eliminate emissions of the appropriate air pollutants.

(e) Said ERPs shall also identify the sources of air pollutants, the approximate amount of reduction of the pollutants, and a brief description of the manner in which the reduction will be achieved.

(f) Upon direct notification by IDEM, OAM, that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level. [326 IAC 1-5-3]

C.14 Risk Management Plan [326 IAC 2-7-5(12)] [40 CFR 68.215]

If a regulated substance, subject to 40 CFR 68, is present in a process in more than the threshold quantity, 40 CFR 68 is an applicable requirement and the Permittee shall:

(a) Submit:

(1) A compliance schedule for meeting the requirements of 40 CFR 68 by the date provided in 40 CFR 68.10(a); or

(2) As a part of the compliance certification submitted under 326 IAC 2-7-6(5), a certification statement that the source is in compliance with all the requirements of 40 CFR 68, including the registration and submission of a Risk Management Plan (RMP); and

(3) A verification to IDEM, OAM, that a RMP or a revised plan was prepared and submitted as required by 40 CFR 68.

(b) Provide annual certification to IDEM, OAM, that the Risk Management Plan is being properly implemented.

All documents submitted pursuant to this condition shall include the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

C.15 Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 2-7-5][326 IAC 2-7-6] [326 IAC 1-6]

(a) The Permittee is required to implement a compliance monitoring plan to ensure that reasonable information is available to evaluate its continuous compliance with applicable requirements. This compliance monitoring plan is comprised of:

(1) This condition;

(2) The Compliance Determination Requirements in Section D of this permit;

(3) The Compliance Monitoring Requirements in Section D of this permit;

(4) The Record Keeping and Reporting Requirements in Section C (Monitoring Data Availability, General Record Keeping Requirements, and General Reporting Requirements) and in Section D of this permit; and

(5) A Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. CRP's shall be submitted to IDEM, OAM upon request and shall be subject to review and approval by IDEM, OAM. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee and maintained on site, and is comprised of:

(A) Response steps that will be implemented in the event that compliance related information indicates that a response step is needed pursuant to the requirements of Section D of this permit; and

(B) A time schedule for taking such response steps including a schedule for devising additional response steps for situations that may not have been predicted.

(b) For each compliance monitoring condition of this permit, appropriate response steps shall be taken when indicated by the provisions of that compliance monitoring condition. Failure to perform the actions detailed in the compliance monitoring conditions or failure to take the response steps within the time prescribed in the Compliance Response Plan, shall constitute a violation of the permit unless taking the response steps set forth in the Compliance Response Plan would be unreasonable.

(c) After investigating the reason for the excursion, the Permittee is excused from taking further response steps for any of the following reasons:

(1) The monitoring equipment malfunctioned, giving a false reading. This shall be an excuse from taking further response steps providing that prompt action was taken to correct the monitoring equipment.

(2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for an administrative amendment to the permit, and such request has not been denied or;

(3) An automatic measurement was taken when the process was not operating; or

(4) The process has already returned to operating within "normal" parameters and no response steps are required.

(d) Records shall be kept of all instances in which the compliance related information was not met and of all response steps taken. In the event of an emergency, the provisions of 326 IAC 2-7-16 (Emergency Provisions) requiring prompt corrective action to mitigate emissions shall prevail.

C.16 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate corrective actions. The Permittee shall submit a description of these corrective actions to IDEM, OAM, within thirty (30) days of receipt of the test results.

The Permittee shall take appropriate action to minimize emissions from the affected facility while the corrective actions are being implemented. IDEM, OAM shall notify the Permittee within thirty (30) days, if the corrective actions taken are deficient. The Permittee shall submit a description of additional corrective actions taken to IDEM, OAM within thirty (30) days of receipt of the notice of deficiency. IDEM, OAM reserves the authority to use enforcement activities to resolve noncompliant stack tests.

(b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAM that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAM may extend the retesting deadline. Failure of the second test to demonstrate compliance with the appropriate permit conditions may be grounds for immediate revocation of the permit to operate the affected facility.

The documents submitted pursuant to this condition do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

C.17 Emission Statement [326 IAC 2-7-5(3)(C)(iii)][326 IAC 2-7-5(7)][326 IAC 2-7-19(c)][326 IAC 2-6]

(a) The Permittee shall submit an annual emission statement certified pursuant to the requirements of 326 IAC 2-6, that must be received by July 1 of each year and must comply with the minimum requirements specified in 326 IAC 2-6-4. The annual emission statement shall meet the following requirements:

(1) Indicate actual emissions of criteria pollutants from the source, in compliance with 326 IAC 2-6 (Emission Reporting);

(2) Indicate actual emissions of other regulated pollutants from the source, for purposes of Part 70 fee assessment.

(b) The annual emission statement covers the twelve (12) consecutive month time period starting January 1 and ending December 31. The annual emission statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

(c) The annual emission statement required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAM, on or before the date it is due.

C.18 Monitoring Data Availability [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)]

(a) With the exception of performance tests conducted in accordance with Section C- Performance Testing, all observations, sampling, maintenance procedures, and record keeping, required as a condition of this permit shall be performed at all times the equipment is operating at normal representative conditions.

(b) As an alternative to the observations, sampling, maintenance procedures, and record keeping of subsection (a) above, when the equipment listed in Section D of this permit is not operating, the Permittee shall either record the fact that the equipment is shut down or perform the observations, sampling, maintenance procedures, and record keeping that would otherwise be required by this permit.

(c) If the equipment is operating but abnormal conditions prevail, additional observations and sampling should be taken with a record made of the nature of the abnormality.

(d) If for reasons beyond its control, the operator fails to make required observations, sampling, maintenance procedures, or record keeping, reasons for this must be recorded.

(e) At its discretion, IDEM may excuse such failure providing adequate justification is documented and such failures do not exceed five percent (5%) of the operating time in any quarter.

(f) Temporary, unscheduled unavailability of staff qualified to perform the required observations, sampling, maintenance procedures, or record keeping shall be considered a valid reason for failure to perform the requirements stated in (a) above.

C.19 General Record Keeping Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-6]

(a) Records of all required monitoring data and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years and available upon the request of an IDEM, OAM, representative. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a written request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

(b) Records of required monitoring information shall include, where applicable:

(1) The date, place, and time of sampling or measurements;

(2) The dates analyses were performed;

(3) The company or entity performing the analyses;

(4) The analytic techniques or methods used;

(5) The results of such analyses; and

(6) The operating conditions existing at the time of sampling or measurement.

(c) Support information shall include, where applicable:

(1) Copies of all reports required by this permit;

(2) All original strip chart recordings for continuous monitoring instrumentation;

(3) All calibration and maintenance records;

(4) Records of preventive maintenance shall be sufficient to demonstrate that improper maintenance did not cause or contribute to a violation of any limitation on emissions or potential to emit. To be relied upon subsequent to any such violation, these records may include, but are not limited to: work orders, parts inventories, and operator's standard operating procedures. Records of response steps taken shall indicate whether the response steps were performed in accordance with the Compliance Response Plan required by Section C - Compliance Monitoring Plan - Failure to take Response Steps, of this permit, and whether a deviation from a permit condition was reported. All records shall briefly describe what maintenance and response steps were taken and indicate who performed the tasks.

(d) All record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

C.20 General Reporting Requirements [326 IAC 2-7-5(3)(C)]

(a) To affirm that the source has met all the compliance monitoring requirements stated in this permit the source shall submit a Semi-Annual Compliance Monitoring Report. Any deviation from the requirements and the date(s) of each deviation must be reported.

(b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

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

(c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAM, on or before the date it is due.

(d) Unless otherwise specified in this permit, any Semi-Annual report shall be submitted within thirty (30) days of the end of the reporting period.

(e) All instances of deviations as described in Section B- Deviations from Permit Requirements Conditions must be clearly identified in such reports.

(f) Any corrective actions or response steps taken as a result of each deviation must be clearly identified in such reports.

(g) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period.

The documents submitted pursuant to this condition do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Stratospheric Ozone Protection

C.21 Compliance with 40 CFR 82 and 326 IAC 22-1

Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with the standards for recycling and emissions reduction:

(a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.

(b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.

(c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

(a) Three (3) natural gas or diesel-fired boilers known as Boiler #1 installed in 1964, Boiler #2 installed in 1964, and Boiler #3 installed in 1964, exhausting at one (1) stack, identified as Stack 1, rated at 25 million British thermal units per hour, each.

(b) Two (2) natural gas or diesel-fired boilers known as Boiler #4 installed in 1969 and Boiler #5 installed in 1973, exhausting at one (1) stack, identified as Stack 1, rated at 14.6 million British thermal units per hour, each.

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 Particulate Emission Limitations for Sources of Indirect Heating (PM) [326 IAC 6-2-3(d)]

Pursuant to 326 IAC 6-2-3(d) (PM Emissions Limitations) the PM emissions from the three (3) natural gas or diesel-fired boilers known as Boiler #1, Boiler #2, and Boiler #3, rated at 25 million British thermal units per hour, each, and the one (1) natural gas or diesel-fired boiler known as Boiler #4, rated at 14.6 million British thermal units shall not exceed 0.774 pound per million British thermal unit heat input as specified by the following equation.

$$Pt = (C \times a \times h) / (76.5 \times Q^{0.75} \times N^{0.25})$$

where:

Pt = Pounds of particulate matter emitted per million British thermal units (lb/MMBtu) heat input

Q = Total source maximum operating capacity rating in million British thermal units per hour (MMBtu/hr) heat input on or prior to June 8, 1972. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used.

C = Maximum ground level concentration with respect to distance from the point source at the "critical" wind speed for level terrain. This shall equal 50 micrograms per cubic meter for a period not to exceed a sixty (60) minute time period.

N = Number of stacks in fuel burning operation.

a = Plume rise factor which is used to make allowance for less than theoretical plume rise. The value 0.67 shall be used for Q less than or equal to 1,000 million British thermal units per hour heat input.

h = Stack height in feet. If a number of stacks of different heights exist, the average stack height will be computed using a weighted average of stack heights.

D.1.2 Particulate Emission Limitations for Sources of Indirect Heating (PM) [326 IAC 6-2-3(e)]

Pursuant to 326 IAC 6-3-2(e) (PM Emissions Limitations) the PM emissions from the one (1) natural gas or diesel-fired boiler known as Boiler #5, rated at 14.6 million British thermal units shall not exceed 0.6 pound per million British thermal unit heat input as specified by the following equation.

$$Pt = (C \times a \times h) / (76.5 \times Q^{0.75} \times N^{0.25})$$

where:

Pt = Pounds of particulate matter emitted per million British thermal units (lb/MMBtu) heat input

Q = Total source maximum operating capacity rating in million British thermal units per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used.

C = Maximum ground level concentration with respect to distance from the point source at the "critical" wind speed for level terrain. This shall equal 50 micrograms per cubic meter for a period not to exceed a sixty (60) minute time period.

N = Number of stacks in fuel burning operation.

a = Plume rise factor which is used to make allowance for less than theoretical plume rise. The value 0.67 shall be used for Q less than or equal to 1,000 million British thermal units per hour heat input.

h = Stack height in feet. If a number of stacks of different heights exist, the average stack height will be computed using a weighted average of stack heights.

Compliance Determination Requirements

D.1.3 Testing Requirements [326 IAC 2-7-6(1),(6)]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the particulate matter limit specified in Conditions D.1.1 and D.1.2 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.1.4 Visible Emissions Notations

(a) Daily visible emission notations of the boiler stack exhausts shall be performed during normal daylight operations when burning diesel fuel and when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.5 Record Keeping Requirements

(a) To document compliance with Conditions D.1.4, the Permittee shall maintain records of daily visible emission notations of the boilers stack exhaust.

(b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.6 Reporting Requirements

The natural gas boiler certification shall be submitted quarterly to the address listed in Section C - General Reporting Requirements, using the form provided at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

SECTION D.2 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

(c) Forty-eight (48) diesel-powered engine test cells known as 101-122, 216-218, 301-322, and 401, exhausted through stacks 101-122, 216-218, 301-322, and 401, respectively, rated at 500 horsepower, each. Five (5) of the test cells, known as 318-322, may be alternately powered by liquid propane gas and eleven (11) of the test cells, known as 121, 122, 303, 316-322, and 401 may be alternately powered by natural gas.

(d) Twenty-one (21) diesel-powered engine test cells known as 201-215, 219, 402, 403, and 417-419, exhausted through stacks 201-215, 219, 402, 403, and 417-419, respectively, rated at 1000 horsepower, each. Five (5) of the test cells, known as 203, 204, and 417-419, may be alternately powered by liquid propane gas or natural gas.

(e) Eleven (11) diesel-powered engine test cells known as 220-222, 404-409, 421, and 422, exhausted through stacks 220-222, 404-409, 421, and 422, respectively, rated at 1500 horsepower, each. One (1) of the test cells, known as 220, may be alternately powered by liquid propane gas or natural gas.

(f) Seven (7) diesel-powered engine test cells known as 410-415, and 420, exhausted through stacks 410-415, and 420, respectively, rated at 2000 horsepower, each. One (1) of the test cells, known as 420, may be alternately powered by liquid propane gas. Two (2) of the test cells known as 410 and 414 may be alternately powered by natural gas.

(g) One (1) diesel-powered engine test cell known as 416, exhausted through stack 416, rated at 3000 horsepower.

(h) One (1) diesel-powered engine test cell known as 423, exhausted through stack 401, rated at 500 horsepower.

(i) Four (4) diesel-powered engine turbo test cells known as 711-714, exhausted through stacks 711-714, rated at 600 horsepower, each.

(j) One (1) diesel-powered engine turbo test cell known as 715, exhausted through stack 715, rated at 300 horsepower.

(k) One (1) electrically-powered engine turbo test cell known as 716, exhausted through stack 716, rated at 200 horsepower.

(l) Two (2) diesel-powered chassis dynamometer test cells known as Test Cell 731 and Test Cell 732 exhausted through stack CD, rated at 500 horsepower, each.

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.2.1 PSD [326 IAC 2-2]

Any change or modification which may increase potential emissions needs prior approval from IDEM, OAM.

Compliance Determination Requirements

D.2.2 Testing Requirements [326 IAC 2-7-6(1),(6)]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM to confirm the emission factors for NO_X and CO from the engine test cells, they shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.2.3 Visible Emissions Notations

(a) Daily visible emission notations of the engine test cell stack exhausts shall be performed once per working shift during normal daylight operations when exhausted to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.2.4 Record Keeping Requirements

(a) To document compliance with Condition D.2.2, the Permittee shall maintain records of daily visible emission notations of the engine test cell stack exhausts.

(b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.3 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

Insignificant Activities

Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6.

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.3.1 Volatile Organic Compounds (VOC)

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations), the owner or operator shall:

(a) Equip the cleaner with a cover;

(b) Equip the cleaner with a facility for draining cleaned parts;

(c) Close the degreaser cover whenever parts are not being handled in the cleaner;

(d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;

(e) Provide a permanent, conspicuous label summarizing the operation requirements;

(f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a matter that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

D.3.2 Volatile Organic Compounds (VOC)

(a) Pursuant to 326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control), the owner or operator of a cold cleaner degreaser facility shall ensure that the following control equipment requirements are met:

(1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:

(A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF));

(B) The solvent is agitated; or

(C) The solvent is heated.

(2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury) or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.

(3) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).

(4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.

(5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury) or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9EC) (one hundred twenty degrees Fahrenheit (120EF)):

(A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.

(B) A water cover when solvent is used is insoluble in, and heavier than, water.

(C) Other systems of demonstrated equivalent control such as a refrigerated chiller of carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.

(b) Pursuant to 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), the owner or operator of a cold cleaning facility shall ensure that the following operating requirements are met:

(1) Close the cover whenever articles are not being handled in the degreaser.

(2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.

(3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

PART 70 OPERATING PERMIT
CERTIFICATION

Source Name: Cummins Engine Company, Columbus Technical Center - Plant 5
Source Address: 1900 McKinley Avenue, Columbus, Indiana 47201
Mailing Address: P.O. Box 3005 - MC 50235, Columbus, Indiana 47202-3005
Part 70 Permit No.: T 005 - 7466 - 00002

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.

Please check what document is being certified:

9 Annual Compliance Certification Letter

9 Test Result (specify) _____

9 Report (specify) _____

9 Notification (specify) _____

9 Other (specify) _____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

PART 70 OPERATING PERMIT
Semi-Annual Compliance Monitoring Report

Source Name: Cummins Engine Company, Columbus Technical Center - Plant 5
Source Address: 1900 McKinley Avenue, Columbus, Indiana 47201
Mailing Address: P.O. Box 3005 - MC 50235, Columbus, Indiana 47202-3005
Part 70 Permit No.: T 005 - 7466 - 00002

Months: _____ **to** _____ **Year:** _____

This report is an affirmation that the source has met all the compliance monitoring requirements stated in this permit. This report shall be submitted semi-annually. Any deviation from the compliance monitoring requirements and the date(s) of each deviation must be reported. Additional pages may be attached if necessary. This form can be supplemented by attaching the Emergency/Deviation Occurrence Report. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".

9 NO DEVIATIONS OCCURRED THIS REPORTING PERIOD

9 THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD.

Compliance Monitoring Requirement (e.g. Permit Condition D.1.3)	**Number of Deviations**	**Date of Each Deviation**

Form Completed By: _____

Title/Position: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT

COMPLIANCE DATA SECTION
P.O. Box 6015
100 North Senate Avenue
Indianapolis, Indiana 46206-6015
Phone: 317-233-5674
Fax: 317-233-5967

PART 70 OPERATING PERMIT
EMERGENCY/DEVIATION OCCURRENCE REPORT

Source Name: Cummins Engine Company, Columbus Technical Center - Plant 5
Source Address: 1900 McKinley Avenue, Columbus, Indiana 47201
Mailing Address: P.O. Box 3005 - MC 50235, Columbus, Indiana 47202-3005
Part 70 Permit No.: T 005 - 7466 - 00002

This form consists of 2 pages **Page 1 of 2**

Check either No. 1 or No.2
9 1. This is an emergency as defined in 326 IAC 2-7-1(12) C The Permittee must notify the Office of Air Management (OAM), within four (**4**) business hours (1-800-451-6027 or 317-233-5674, ask for Compliance Section); and C The Permittee must submit notice in writing or by facsimile within two (**2**) days (Facsimile Number: 317-233-5967), and follow the other requirements of 326 IAC 2-7-16
9 2. This is a deviation, reportable per 326 IAC 2-7-5(3)(c) C The Permittee must submit notice in writing within ten (**10**) calendar days

If any of the following are not applicable, mark N/A

Facility/Equipment/Operation:
Control Equipment:
Permit Condition or Operation Limitation in Permit:
Description of the Emergency/Deviation:
Describe the cause of the Emergency/Deviation:

If any of the following are not applicable, mark N/A

Date/Time Emergency/Deviation started:
Date/Time Emergency/Deviation was corrected:
Was the facility being properly operated at the time of the emergency/deviation? Y N Describe:
Type of Pollutants Emitted: TSP, PM-10, SO_2, VOC, NO_X, CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency/deviation:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

PART 70 OPERATING PERMIT
NATURAL GAS FIRED BOILER CERTIFICATION

Source Name: Cummins Engine Company, Columbus Technical Center - Plant 5
Source Address: 1900 McKinley Avenue, Columbus, Indiana 47201
Mailing Address: P.O. Box 3005 - MC 50235, Columbus, Indiana 47202-3005
Part 70 Permit No.: T 005 - 7466 - 00002

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.

Report period
Beginning: _____
Ending: _____

Boiler Affected	Alternate Fuel From	Alternate Fuel To	Days burning alternate fuel

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

Indiana Department of Environmental Management
Office of Air Management

Technical Support Document (TSD) for a Part 70 Operating Permit and Enhanced New Source Review (ENSR)

Source Background and Description

Source Name:	**Cummins Engine Company, Columbus Technical Center - Plant 5**
Source Location:	**1900 McKinley Avenue, Columbus, Indiana 47201**
County:	**Bartholomew**
SIC Code:	**8734**
Operation Permit No.:	**T 005-7466-00002**
Permit Reviewer:	**Peter E. Fountaine**

The Office of Air Management (OAM) has reviewed a Part 70 permit application from Cummins Engine Company, Columbus Technical Center-Plant 5 relating to the operation of a research and development source for diesel-powered engines. The engine test cells at this source are limited to 15.2 percent of their potential due to cooling water limitations.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

(a) Three (3) natural gas or diesel-fired boilers known as Boiler #1 installed in 1964, Boiler #2 installed in 1964, and Boiler #3 installed in 1964, exhausting at one (1) stack, identified as Stack 1, rated at 25 million British thermal units per hour, each.

(b) Two (2) natural gas or diesel-fired boilers known as Boiler #4 installed in 1969 and Boiler #5 installed in 1973, exhausting at one (1) stack, identified as Stack 1, rated at 14.6 million British thermal units per hour, each.

(c) Forty-eight (48) diesel-powered engine test cells known as 101-122, 216-218, 301-322, and 401, exhausted through stacks 101-122, 216-218, 301-322, and 401, respectively, rated at 500 horsepower, each. Five (5) of the test cells, known as 318-322, may be alternately powered by liquid propane gas and eleven (11) of the test cells, known as 121, 122, 303, 316-322, and 401, may be alternately powered by natural gas.

(d) Twenty-one (21) diesel-powered engine test cells known as 201-215, 219, 402, 403, and 417-419, exhausted through stacks 201-215, 219, 402, 403, and 417-419, respectively, rated at 1000 horsepower, each. Five (5) of the test cells, known as 203, 204, and 417-419, may be alternately powered by liquid propane gas or natural gas.

(e) Eleven (11) diesel-powered engine test cells known as 220-222, 404-409, 421, and 422, exhausted through stacks 220-222, 404-409, 421, and 422, respectively, rated at 1500 horsepower, each. One (1) of the test cells, known as 220, may be alternately powered by liquid propane gas or natural gas.

(f) Seven (7) diesel-powered engine test cells known as 410-415, and 420, exhausted through stacks 410-415, and 420, respectively, rated at 2000 horsepower, each. One (1) of the test cells, known as 420, may be alternately powered by liquid propane gas. Two (2) of the test cells known as 410 and 414 may be alternately powered by natural gas.

(g) One (1) diesel-powered engine test cell known as 416, exhausted through stack 416, rated at 3000 horsepower.

Unpermitted Emission Units and Pollution Control Equipment Requiring ENSR

The source also consists of the following unpermitted facilities/units:

(h) One (1) diesel-powered engine test cell known as 423, constructed prior to January 1, 1994, exhausted through stack 401, rated at 500 horsepower.

(i) Four (4) diesel-powered engine turbo test cells known as 711-714, constructed prior to January 1, 1994, exhausted through stacks 711-714, rated at 600 horsepower, each.

(j) One (1) diesel-powered engine turbo test cell known as 715, constructed prior to January 1, 1994, exhausted through stack 715, rated at 300 horsepower.

(k) One (1) electrically-powered engine turbo test cell known as 716, constructed prior to January 1, 1994, exhausted through stack 716, rated at 200 horsepower.

(l) Two (2) diesel-powered chassis dynamometer test cells known as Test Cell 731 and Test Cell 732, constructed prior to January 1, 1994, exhausted through stack CD, rated at 500 horsepower, each.

New Emission Units and Pollution Control Equipment Requiring ENSR

There are no new facilities to be reviewed under the ENSR process.

Insignificant Activities

The source also consists of the following insignificant activities, as defined in 326 IAC 2-7-1(21):

(a) A gasoline fuel transfer and dispensing operation handling less than or equal to 1,300 gallons per day, such as filling of tanks, locomotives, automobiles, having a storage capacity less than or equal to 10,500 gallons.

(b) A petroleum fuel, other than gasoline, dispensing facility, having a storage capacity of less than or equal to 10,500 gallons, and dispensing less than or equal to 230,000 gallons per month.

(c) The following VOC and HAP storage containers: Storage tanks with capacity less than or equal to 1,000 gallons and annual throughputs less than 12,000 gallons; vessels storing lubricating oil, hydraulic oils, machining oils, and machining fluids.

(d) Activities associated with the treatment of wastewater streams with an oil and grease content less than or equal to 1 percent by volume.

(e) Noncontact cooling tower systems with either of the following: Forced and induced draft cooling tower system not regulated under a NESHAP.

(f) Paved and unpaved roads and parking lots with public access.

(g) Equipment used to collect any material that might be released during a malfunction, process upset, or spill cleanup, including catch tanks, temporary liquid separators, tanks, and fluid handling equipment.

(h) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.

(i) On-site fire and emergency response training approved by the department.

(j) Emergency generators as follows: Diesel generators not exceeding 1,600 horsepower.

(k) A laboratory as defined in 326 IAC 2-7-1(20)(C).

(l) Miscellaneous Air Conditioning Equipment - CFCs.

(m) Underground storage tanks.

(n) Mineral spirits parts washer - VOC emissions approximately 0.44 pound per hour.

(o) Incidental - use paint booth - VOC emissions approximately 0.24 pound per hour.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following: list permits, registrations, modifications, exemptions, etc.

(a) OP 03-05-87-0115, issued on June 13, 1983

(b) OP 03-05-87-0116, issued on June 13, 1983

(c) OP 03-05-87-0117, issued on June 13, 1983

(d) OP 03-05-87-0118, issued on June 13, 1983

(e) OP 03-05-91-0136, issued on September 29, 1988

(f) OP 03-05-91-0137, issued on September 29, 1988

(g) OP 03-05-91-0138, issued on September 29, 1988

(h) OP 03-05-91-0139, issued on September 29, 1988

(i) OP 03-05-91-0140, issued on September 29, 1988

(j) OP 03-05-91-0141, issued on September 29, 1988

(k) OP 03-05-91-0142, issued on September 29, 1988

(l) OP 03-05-91-0143, issued on September 29, 1988

All conditions from previous approvals were incorporated into this Part 70 permit.

Enforcement Issue

(a) IDEM is aware that equipment has been constructed and operated prior to receipt of the proper permit. The subject equipment is listed in this Technical Support Document under the condition entitled *Unpermitted Emission Units and Pollution Control Equipment Requiring ENSR.*

(b) IDEM is reviewing this matter and will take appropriate action. This proposed permit is intended to satisfy the requirements of the construction permit rules.

Recommendation

The staff recommends to the Commissioner that the Part 70 permit be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An administratively complete Part 70 permit application for the purposes of this review was received on December 11, 1996. Additional information was received on February 20, 1998.

A notice of completeness letter was mailed to the source on January 13, 1997.

Emission Calculations

See Appendix A of this document for detailed emissions calculations on pages 1 through 9 of 9.

Potential Emissions

Pursuant to 326 IAC 1-2-55, Potential Emissions are defined as “emissions of any one (1) pollutant which would be emitted from a facility, if that facility were operated without the use of pollution control equipment unless such control equipment is necessary for the facility to produce its normal product or is integral to the normal operation of the facility.”

Pollutant	**Potential Emissions** (tons/year)
PM	less than 100
PM_{10}	less than 100

SO_2	less than 100
VOC	less than 100
CO	greater than 100 & less than 250
NO_x	greater than 250

Note: For the purpose of determining Title V applicability for particulates, PM_{10}, not PM, is the regulated pollutant in consideration.

HAP's	**Potential Emissions** (tons/year)
Acetaldehyde	less than 10
Acrolein	less than 10
Benzene	less than 10
1, 3 Butadiene	less than 10
Formaldehyde	less than 10
Toluene	less than 10
Xylene	less than 10
Polycyclic Organic Matter	less than 10
TOTAL	less than 10

(a) The potential emissions (as defined in 326 IAC 1-2-55) of NO_X and CO are equal to or greater than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.

(b) Fugitive Emissions
Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

Actual Emissions

The following table shows the actual emissions from the source. This information reflects the 1995 AIRS Facility Subsystem Quick Look Report emission data.

Pollutant	**Actual Emissions** (tons/year)
PM	35.1
PM_{10}	33.5
SO_2	32.5
VOC	33.5
CO	109
NO_x	532
Acetaldehyde	0.524
Acrolein	0.0524
Benzene	0.0524
1, 3 Butadiene	0.0262
Formaldehyde	0.786
Toluene	0.262
Xylene	0.183
Polycyclic Organic Matter	0.105

Limited Potential to Emit

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units.

	Limited Potential to Emit (tons/year)						
Process/facility	PM	PM_{10}	SO_2	VOC	CO	NO_X	HAPs
Boilers #1- #5	6.25	6.25	23.1	1.28	16.3	65.2	0.00
Engine Test Cells (96)	8.72	8.72	5.41	63.0	107	302	2.46
Insignificant Activities	5.00	5.00	1.00	5.00	1.00	3.00	0.50
Total Emissions	20.0	20.0	29.5	69.3	124	370	2.96

The values in the table represent the potential emissions.

County Attainment Status

The source is located in Bartholomew County.

Pollutant	Status
TSP	attainment
PM_{10}	attainment
SO_2	attainment
NO_2	attainment
Ozone	attainment
CO	attainment
Lead	attainment

Volatile organic compounds (VOC) and oxides of nitrogen (NOx) are precursors for the formation of ozone. Therefore, VOC and NO_X emissions are considered when evaluating the rule applicability relating to the ozone standards. Bartholomew County has been designated as attainment or unclassifiable for ozone.

Federal Rule Applicability

(a) There are no New Source Performance Standards (326 IAC 12) 40 CFR Part 60 applicable to this source.

(b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) 40 CFR Part 63 applicable to this source.

State Rule Applicability - Entire Source

326 IAC 2-2 (Prevention of Significant Deterioration)

This existing major source has the potential to emit more than 250 tons per year of NOx. The source did not undergo PSD review for any of the existing equipment because construction occurred prior to August 7, 1977.

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than one hundred (100) tons per year of NO_X and CO. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by July 1 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8)(Emission Statement Operating Year).

326 IAC 5-1 (Visible Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Visible Emissions Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), visible emissions shall meet the following, unless otherwise stated in this permit:

(a) Visible emissions shall not exceed an average of forty percent (40%) opacity in twenty-four (24) consecutive readings as determined by 326 IAC 5-1-4,

(b) Visible emissions shall not exceed sixty percent (60%) opacity for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) in a six (6) hour period.

State Rule Applicability - Individual Facilities

326 IAC 2-1-3.4 (New Source Air Toxics Control)

This source was constructed prior to July 27, 1997. Therefore, the requirements of 326 IAC 2-1-3.4 do not apply.

326 IAC 6-2-3(d) (Particulate Emissions Limitations for Facilities Constructed prior to June 8, 1972)

Boilers #1 through #3 each rated at 25 MMBtu/hr, installed in 1964, and Boiler #4 rated at 14.6 MMBtu/hr, installed in 1969 must comply with the particulate matter emission rate specified by the following equation given in 326 IAC 6-2-3(d). The total heat input capacity for the four (4) boilers is 89.6 million British thermal units per hour.

$$Pt = (C \times a \times h) / (76.5 \times Q^{0.75} \times N^{0.25})$$

where:

Pt = Pounds of particulate matter emitted per million British thermal units (lb/MMBtu) heat input

Q = Total source maximum operating capacity rating in million British thermal units per hour (MMBtu/hr) heat input on or prior to June 8, 1972. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used.

C = Maximum ground level concentration with respect to distance from the point source at the "critical" wind speed for level terrain. This shall equal 50 micrograms per cubic meter for a period not to exceed a sixty (60) minute time period.

N = Number of stacks in fuel burning operation.

a = Plume rise factor which is used to make allowance for less than theoretical plume rise. The value 0.67 shall be used for Q less than or equal to 1,000 million British thermal units per hour heat input.

h = Stack height in feet. If a number of stacks of different heights exist, the average stack height will be computed using a weighted average of stack heights.

$Pt = (50\ \mu g/m^3 \times 0.67 \times 51.5\ ft) / (76.5 \times 89.6^{0.75} \times 1^{0.25}) = 0.774$ lb PM / MMBtu

The four (4) boilers will be limited to emissions of 0.774 pound PM per million British thermal units (MMBtu). The potential PM emissions of the four (4) boilers are shown on pages 7 and 8 of 9 of TSD Appendix A and are as follows:

PM = 5.38 tons of PM per year / 89.6 MMBtu per hour = 1.23 pounds of PM per hour / 89.6 MMBtu per hour = 0.014 pounds of PM per million British thermal units, when operated on natural gas.

PM = 5.61 tons of PM per year / 89.6 MMBtu per hour = 1.28 pounds of PM per hour / 89.6 MMBtu per hour = 0.014 pounds of PM per million British thermal units, when operated on number 2 fuel oil.

Therefore, the four (4) boilers will comply with this rule.

326 IAC 6-2-3(e) (Particulate Emissions Limitations for Facilities Constructed after June 8, 1972)

Boiler #5, installed in 1973 must comply with the particulate matter emission rate specified by the following equation given in 326 IAC 6-2-3(e). The total boiler heat input capacity for the source at this time is 104.2 million British thermal units per hour.

$$Pt = (C \times a \times h) / (76.5 \times Q^{0.75} \times N^{0.25})$$

where:

Pt = Pounds of particulate matter emitted per million British thermal units (lb/MMBtu) heat input

Q = Total source maximum operating capacity rating in million British thermal units per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used.

C = Maximum ground level concentration with respect to distance from the point source at the "critical" wind speed for level terrain. This shall equal 50 micrograms per cubic meter for a period not to exceed a sixty (60) minute time period.

N = Number of stacks in fuel burning operation.

a = Plume rise factor which is used to make allowance for less than theoretical plume rise. The value 0.67 shall be used for Q less than or equal to 1,000 million British thermal units per hour heat input.

h = Stack height in feet. If a number of stacks of different heights exist, the average stack height will be computed using a weighted average of stack heights.

$Pt = (50\ \mu g/m^3 \times 0.67 \times 51.5\ ft) / (76.5 \times 104.2^{0.75} \times 1^{0.25}) = 0.692$ lb PM / MMBtu

This number is greater than the allowable emissions stated in 326 IAC 6-2-3(e), therefore the allowable emissions for the boiler constructed after June 8, 1972 shall be limited to 0.6 lb PM per million British thermal units.

The potential PM emissions of the boiler is shown on pages 7 and 8 of 9 of TSD Appendix A: and is as follows:

PM = 0.876 tons of PM per year / 14.6 MMBtu per hour = 0.20 pounds of PM per hour / 14.6 MMBtu per hour = 0.014 pounds of PM per million British thermal units.

PM = 0.914 tons of PM per year / 14.6 MMBtu per hour = 0.20 pounds of PM per hour / 14.6 MMBtu per hour = 0.014 pounds of PM per million British thermal units.

Therefore, the boiler will comply with this rule.

326 IAC 7-1.1 (Sulfur Dioxide Emission Limits)

This facility is not subject to 326 IAC 7-1.1 (Sulfur Dioxide Emission Limits), because it does not have the potential to emit 25.0 tons per year or 10.0 pounds per hour or greater of sulfur dioxide.

326 IAC 8-1-6 (New facilities; General reduction requirements)

The engine test cells with potential VOC emissions greater than 25 tons per year were constructed prior to January 1, 1980. Therefore, the requirements of 326 IAC 8-1-6 do not apply.

There are no other 326 IAC 8 rules that apply.

326 IAC 8-2-9 (Miscellaneous Metal Coating)

The incidental-use spray paint booth will emit less than fifteen (15) pounds of VOC per day. Therefore, the requirements of 326 IAC 8-2-9 do not apply.

326 IAC 9-1 (CO Emission Limits)

This source does not engage in petroleum refining, ferrous metal smelting, or refuse incineration. Therefore, the requirements of 326 IAC 9-1 do not apply.

326 IAC 10-1 (NO_X Control In Clark and Floyd Counties)

Since this source is not in Clark or Floyd counties, the requirements of 326 IAC 10-1 do not apply.

Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAM, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to this source are as follows:

(a) The boilers have applicable compliance monitoring conditions as specified below:

Daily visible emissions notations of the boilers stack exhaust shall be performed during normal daylight operations when burning diesel fuel. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

These monitoring conditions are necessary to ensure compliance with 326 IAC 6-2 and 326 IAC 2-7 (Part 70).

(b) The engine test cells have applicable compliance monitoring conditions as specified below:

Daily visible emissions notations of the engine test cells stack exhaust shall be performed during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

These monitoring conditions are necessary to ensure compliance with 326 IAC 2-7 (Part 70).

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 187 hazardous air pollutants (HAPs) set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Part 70 Application Form GSD-08.

(a) This source will emit levels of air toxics less than those which constitute a major source according to Section 112 of the 1990 Clean Air Act Amendments.

(b) See attached calculations for detailed air toxic calculations on page 9 of 9 of TSD Appendix A.

Conclusion

The operation of this research and development source shall be subject to the conditions of the attached proposed Part 70 Permit No. T 005-7466-00002.

Indiana Department of Environmental Management
Office of Air Management

Addendum to the
Technical Support Document for a Part 70 Operating Permit

Source Name:	Cummins Engine Company, Columbus Technical Center - Plant 5
Source Location:	1900 McKinley Avenue, Columbus, Indiana 47201
County:	Bartholomew
Part 70 Operating Permit:	OP T 005-7466-00002
SIC Code:	8734
Permit Reviewer:	Peter E. Fountaine

On August 19, 1998, the Office of Air Management (OAM) had a notice published in The Republic, Columbus, Indiana, stating that Cummins Engine Company, Columbus Technical Center - Plant 5 had applied for a Part 70 Operating Permit to operate a research and development source. The notice also stated that OAM proposed to issue a Part 70 Operating Permit for this operation and provided information on how the public could review the proposed Part 70 Operating Permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this Part 70 Operating Permit should be issued as proposed.

Upon further review, the OAM has decided to make the following changes to the Part 70 Operating Permit. The permit language is changed to read as follows (deleted language appears as ~~strikeouts~~, new language is **bolded)**:

1. The Cover Page has been revised as follows:

   Issued by:
   ~~Felicia R. George~~ **Janet G. McCabe**, Assistant Commissioner
   Office of Air Management

2. Section D.2.3 (Visible Emissions Notations) has been changed as follows:

   D.2.3 Visible Emissions Notations
   (a) Daily visible emission notations of the engine test cell stack exhausts shall be performed **once per working shift** during normal daylight operations when exhausted to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

3. IDEM is removing this provision from the permit. IDEM now believes that it is not necessary to include this condition in the permit. The issues regarding credible evidence can be adequately addressed when a showing of compliance or noncompliance is made. Indiana's air pollution control laws allow the use of any credible evidence in determining compliance or noncompliance. An explicit statement is not required in the permit. Although the permit may set out specific methods to determine compliance, any other method or other credible evidence may be admissible to demonstrate compliance or noncompliance.

~~B.**28** Credible Evidence [326 IAC 2-7-5(3)][62 Federal Register 8313][326 IAC 2-7-6]
Not withstanding the conditions of this permit that state specific methods that may be used to assess compliance or noncompliance with applicable requirements, other credible evidence may be used to demonstrate compliance or non-compliance.~~

4. Condition C.3 has been updated to reflect the revision in 326 IAC 5-1-2 dated November 1, 1998. as follows:

C.3 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (~~Visible Emissions~~ **Opacity** Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), ~~visible emissions~~ opacity shall meet the following, unless otherwise stated in this permit:

(a) ~~Visible emissions~~ **Opacity** shall not exceed an average of forty percent (40%) ~~opacity~~ in ~~twenty-four (24) consecutive readings~~, any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) ~~Visible emissions~~ **Opacity** shall not exceed sixty percent (60%) ~~opacity~~ for more than a cumulative total of fifteen (15) minutes (sixty (60) readings **as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor)** in a six (6) hour period.

Appendix A: Emission Calculations
Engine Test Cells

Company Name: Cummins Engine Company, Columbus Technical Center - Plant 5
Address City IN Zip: 1900 McKinley Avenue, Columbus, Indiana 47201
Part 70: T005-7466
Plt ID: 005-00002
Reviewer: Peter E. Fountaine
Date: December 11, 1996

Capacity = 78,000 HP
Limited by 15.2% of total capacity at anyone time or 11829.56 HP

Stack	Point	Source	Potential Fuel Used per year	# of test Cells per year	Potential fuel per cell/yr	Fuel Units	Fuel Type	Operating Rate ((units/hr)/cell)	PM Factor (lbs/unit)	Potential PM ((lbs/hr)/cell)	Potential PM ((tons/yr)/cell)	Potential ((PM/hp)/cell) (tons/yr)	Potential PM-all cells (tons/yr)	Total Capacity HP	Partial HP used	Worst case PM (tons/yr)
a	a	49-500 HP engine test cells	1612	49	32.9	kilogallons	#2 Diesel	0.00376	10.7	0.0402	0.176	0.000352	8.62	24500	0	0.00
b	b	21-1000 HP engine test cells	1372	21	65.3	kilogallons	#2 Diesel	0.00746	10.7	0.0798	0.350	0.000350	7.34	21000	0	0.00
c	c	12-1500 HP engine test cells	1078	12	89.8	kilogallons	#2 Diesel	0.0103	10.7	0.110	0.481	0.000320	5.77	18000	0	0.00
d	d	6-2000 HP engine test cells	915	6	153	kilogallons	#2 Diesel	0.0174	10.7	0.186	0.816	**0.000408**	4.90	12000	**10000**	4.08
e	e	1-3000 HP engine test cells	196	1	196	kilogallons	#2 Diesel	0.0224	10.7	0.239	1.05	0.000350	1.05	3000	0	0.00
f	f	5-500 HP engine test cells	229	5	45.7	kilogallons	LPG	0.00522	5.0	0.0261	0.114	0.000229	0.572	2500	0	0.00
g	g	5-1000 HP engine test cells	457	5	91.4	kilogallons	LPG	0.0104	5.0	0.0522	0.229	0.000229	1.14	5000	0	0.00
220	220	1500 HP engine test cell	137	1	137	kilogallons	LPG	0.0157	5.0	0.0783	0.343	0.000229	0.343	1500	0	0.00
420	420	2000 HP engine test cell	549	1	549	kilogallons	LPG	0.0626	5.0	0.313	1.37	**0.000686**	1.37	2000	**2000**	1.37
h	h	11-500 HP engine test cells	50.2	11	4.56	MM SCF	Natural Gas	0.000521	10.0	0.00521	0.0228	0.0000456	0.251	5500	0	0.00
j	j	5-1000 HP engine test cells	45.6	5	9.12	MM SCF	Natural Gas	0.00104	10.0	0.0104	0.0456	0.0000456	0.228	5000	0	0.00
220	220	1500 HP engine test cell	13.7	1	13.7	MM SCF	Natural Gas	0.00156	10.0	0.0156	0.0685	0.0000457	0.069	1500	0	0.00
410, 414	410, 414	2-2000 HP engine test cells	36.5	2	18.3	MM SCF	Natural Gas	0.00208	10.0	0.0208	0.0913	0.0000456	0.183	4000	0	0.00
CD	731, 732	2-500 HP chassis dynomometer cells	65.3	2	32.7	kilogallons	#2 Diesel	0.00373	10.7	0.0399	0.175	0.000349	0.349	1000	0	0.00
													Partial HP used:	**12000**		**5.45**
711-715	711-715	5-Turbo stand cells	678	5	136	kilogallons	#2 Diesel	0.0155	10.7	0.166	0.725	0.00121	3.63	2700	2700	3.26

Total Pollutant (tons/yr): 8.72

1) Stack/Point/Segment numbers identify the emission point:
-Stack refers to a physical stack location
-Point represents an emission unit attached to a stack
-Segment numbers are assigned to mulitple operating scenarios

2) The following unit ID (Point) and Stack numbers have been previously assigned to the test cells:
(a) 500 hp cells - 101-122, 216-218, 301-322, 401, 423
(b) 1,000 hp cells - 201-215, 219, 402, 403, 417-419
(c) 1,500 hp cells - 200-222, 404-409, 421, 422
(d) 2,000 hp cells - 410-415, 420
(e) 3,000 hp cells - 416
The following cells are supplied with propane:
(f) 500 hp cells - 318-322
(g) 1,000 hp cells - 203, 204, 417-419
The following cells are supplied with natural gas:
(h) 500 hp cells - 121, 122, 303, 316-322, 401
(i) 1,000 hp cells - 203, 204, 417-419

The following cells are supplied with propane:
(f) 500 hp cells - 318-322
(g) 1,000 hp cells - 203, 204, 417-419
The following cells are supplied with natural gas:
(h) 500 hp cells - 121, 122, 303, 316-322, 401
(i) 1,000 hp cells - 203, 204, 417-419

3) Emission factors for the diesel test cells were supplied by the applicant from 1994 source testing data.

4) Emission factors for the LPG test cells were supplied by the applicant.

5) Emission factors for the natural gas test cells were supplied by the 1990 AIRS Facility Subsystem Classification Codes and Emission Factor Listing For Criteria Air Pollutants.

Appendix A: Emission Calculations
Engine Test Cells

Company Name: Cummins Engine Company, Columbus Technical Center - Plant 5
Address City IN Zip: 1900 McKinley Avenue, Columbus, Indiana 47201
Part 70: T005-7466
Plt ID: 005-00002
Reviewer: Peter E. Fountaine
Date: December 11, 1996

Capacity = 78,000 HP
Limited by 15.2% of total capacity at anyone time or 11829.558 HP

Stack	Point	Source	Potential Fuel Used per year	# of test Cells per year	Potential fuel per cell/yr	Fuel Units	Fuel Type	Operating Rate ((units/hr)/cell)	PM-10 Factor (lbs/unit)	Potential PM-10 ((lbs/hr)/cell)	Potential PM-10 ((tons/yr)/cell)	Potential (PM-10/hp)/cell) (tons/yr)	Potential PM-10-all cells (tons/yr)	Total Capacity HP	Partial HP used	Worst case PM-10 (tons/yr)
a	a	49-500 HP engine test cells	1612	49	32.9	kilogallons	#2 Diesel	0.00376	10.7	0.0402	0.176	0.000352	8.62	24500	0	0.00
b	b	21-1000 HP engine test cells	1372	21	65.3	kilogallons	#2 Diesel	0.00746	10.7	0.0798	0.350	0.000350	7.34	21000	0	0.00
c	c	12-1500 HP engine test cells	1078	12	89.8	kilogallons	#2 Diesel	0.0103	10.7	0.110	0.481	0.000320	5.77	18000	0	0.00
d	d	6-2000 HP engine test cells	915	6	153	kilogallons	#2 Diesel	0.0174	10.7	0.186	0.816	**0.000408**	4.90	12000	**10000**	4.08
e	e	1-3000 HP engine test cells	196	1	196	kilogallons	#2 Diesel	0.0224	10.7	0.239	1.05	0.000350	1.05	3000	0	0.00
f	f	5-500 HP engine test cells	228.6	5	45.7	kilogallons	LPG	0.00522	5.0	0.0261	0.114	0.000229	0.572	2500	0	0.00
g	g	5-1000 HP engine test cells	457.2	5	91.4	kilogallons	LPG	0.0104	5.0	0.0522	0.229	0.000229	1.14	5000	0	0.00
220	220	1500 HP engine test cell	137	1	137	kilogallons	LPG	0.0157	5.0	0.0783	0.343	0.000229	0.343	1500	0	0.00
420	420	2000 HP engine test cell	549	1	549	kilogallons	LPG	0.0626	5.0	0.313	1.37	**0.000686**	1.37	2000	**2000**	1.37
h	h	11-500 HP engine test cells	50.2	11	4.56	MM SCF	Natural Gas	0.000521	10.0	0.00521	0.0228	0.0000456	0.251	5500	0	0.00
j	j	5-1000 HP engine test cells	45.6	5	9.12	MM SCF	Natural Gas	0.00104	10.0	0.0104	0.0456	0.0000456	0.228	5000	0	0.00
220	220	1500 HP engine test cell	13.7	1	13.7	MM SCF	Natural Gas	0.00156	10.0	0.0156	0.0685	0.0000457	0.0685	1500	0	0.00
410, 414	410, 414	2-2000 HP engine test cells	36.5	2	18.3	MM SCF	Natural Gas	0.00208	10.0	0.0208	0.0913	0.0000456	0.183	4000	0	0.00
CD	731, 732	2-500 HP chassis dynomometer cells	65.3	2	32.7	kilogallons	#2 Diesel	0.00373	10.7	0.0399	0.175	0.000349	0.349	1000	0	0.00
															Partial HP used:	**12000** **5.45**
711-715	711-715	5-Turbo stand cells	678	5	136	kilogallons	#2 Diesel	0.015	10.7	0.166	0.725	0.00121	3.63	2700	2700	3.26

Total Pollutant (tons/yr): 8.72

1) Stack/Point/Segment numbers identify the emission point:
-Stack refers to a physical stack location
-Point represents an emission unit attached to a stack
-Segment numbers are assigned to mulitple operating scenarios

2) The following unit ID (Point) and Stack numbers have been previously assigned to the test cells:
(a) 500 hp cells - 101-122, 216-218, 301-322, 401, 423
(b) 1,000 hp cells - 201-215, 219, 402, 403, 417-419
(c) 1,500 hp cells - 200-222, 404-409, 421, 422
(d) 2,000 hp cells - 410-415, 420
(e) 3,000 hp cells - 416
The following cells are supplied with propane:
(f) 500 hp cells - 318-322
(g) 1,000 hp cells - 203, 204, 417-419
The following cells are supplied with natural gas:
(h) 500 hp cells - 121, 122, 303, 316-322, 401
(i) 1,000 hp cells - 203, 204, 417-419

The following cells are supplied with propane:
(f) 500 hp cells - 318-322
(g) 1,000 hp cells - 203, 204, 417-419
The following cells are supplied with natural gas:
(h) 500 hp cells - 121, 122, 303, 316-322, 401
(i) 1,000 hp cells - 203, 204, 417-419

3) Emission factors for the diesel test cells were supplied by the applicant from 1994 source testing data.

4) Emission factors for the LPG test cells were supplied by the applicant.

5) Emission factors for the natural gas test cells were supplied by the 1990 AIRS Facility Subsystem Classification Codes and Emission Factor Listing For Criteria Air Pollutants.

Appendix A: Emission Calculations
Engine Test Cells

Company Name: Cummins Engine Company, Columbus Technical Center - Plant 5
Address City IN Zip: 1900 McKinley Avenue, Columbus, Indiana 47201
Part 70: T005-7466
Plt ID: 005-00002
Reviewer: Peter E. Fountaine
Date: December 11, 1996

Capacity = 78,000 HP
Limited by 15.2% of total capacity at anyone time or 11829.558 HP

Stack	Point	Source	Potential Fuel Used per year	# of test Cells per year	Potential fuel per cell/yr	Fuel Units	Fuel Type	Operating Rate ((units/hr)/cell)	NOx Factor (lbs/unit)	Potential NOx ((lbs/hr)/cell)	Potential NOx ((tons/yr)/cell)	Potential ((NOx/hp)/cell) (tons/yr)	Potential NOx-all cells (tons/yr)	Total Capacity HP	Partial HP used	Worst case NOx (tons/yr)
a	a	49-500 HP engine test cells	1612	49	32.9	kilogallons	#2 Diesel	0.00376	355.0	1.33	5.84	0.0117	286	24500	0	0.00
b	b	21-1000 HP engine test cells	1372	21	65.3	kilogallons	#2 Diesel	0.00746	355.0	2.65	11.6	0.0116	244	21000	0	0.00
c	c	12-1500 HP engine test cells	1078	12	89.8	kilogallons	#2 Diesel	0.0103	355.0	3.64	15.9	0.0106	191	18000	0	0.00
d	d	6-2000 HP engine test cells	915	6	153	kilogallons	#2 Diesel	0.0174	355.0	6.18	27.1	0.0135	162	12000	0	0.00
e	e	1-3000 HP engine test cells	196	1	196	kilogallons	#2 Diesel	0.0224	355.0	7.94	34.8	0.0116	34.8	3000	0	0.00
f	f	5-500 HP engine test cells	228.6	5	45.7	kilogallons	LPG	0.00522	139.0	0.725	3.18	0.00636	15.9	2500	0	0.00
g	g	5-1000 HP engine test cells	457.2	5	91.4	kilogallons	LPG	0.0104	139.0	1.45	6.36	0.00636	31.8	5000	0	0.00
220	220	1500 HP engine test cell	137	1	137	kilogallons	LPG	0.0157	139.0	2.18	9.54	0.00636	9.54	1500	0	0.00
420	420	2000 HP engine test cell	549	1	549	kilogallons	LPG	0.0626	139.0	8.71	38.1	**0.0191**	38.1	2000	**2000**	38.1
h	h	11-500 HP engine test cells	50.2	11	4.56	MM SCF	Natural Gas	0.000521	3400.0	1.77	7.76	**0.0155**	85.3	5500	**5500**	85.3
j	j	5-1000 HP engine test cells	45.6	5	9.12	MM SCF	Natural Gas	0.00104	3400.0	3.54	15.5	**0.0155**	77.5	5000	**3000**	46.5
220	220	1500 HP engine test cell	13.7	1	13.7	MM SCF	Natural Gas	0.00156	3400.0	5.32	23.3	**0.0155**	23.3	1500	**1500**	23.3
410, 414	410, 414	2-2000 HP engine test cells	36.5	2	18.3	MM SCF	Natural Gas	0.00208	3400.0	7.08	31.0	0.0155	62.1	4000	0	0.00
CD	731, 732	2-500 HP chassis dynomometer cells	65.3	2	32.7	kilogallons	#2 Diesel	0.00373	355.0	1.32	5.80	0.0116	11.6	1000	0	0.00
													Partial HP used:	**12000**		**193**
711-715	711-715	5-Turbo stand cells	678	5	136	kilogallons	#2 Diesel	0.0155	355.0	5.50	24.1	0.0401	120	2700	2700	108

Total Pollutant (tons/yr): 302

1) Stack/Point/Segment numbers identify the emission point:
-Stack refers to a physical stack location
-Point represents an emission unit attached to a stack
-Segment numbers are assigned to mulitple operating scenarios

2) The following unit ID (Point) and Stack numbers have been previously assigned to the test cells:
(a) 500 hp cells - 101-122, 216-218, 301-322, 401, 423
(b) 1,000 hp cells - 201-215, 219, 402, 403, 417-419
(c) 1,500 hp cells - 200-222, 404-409, 421, 422
(d) 2,000 hp cells - 410-415, 420
(e) 3,000 hp cells - 416
The following cells are supplied with propane:
(f) 500 hp cells - 318-322
(g) 1,000 hp cells - 203, 204, 417-419
The following cells are supplied with natural gas:
(h) 500 hp cells - 121, 122, 303, 316-322, 401
(i) 1,000 hp cells - 203, 204, 417-419

The following cells are supplied with propane:
(f) 500 hp cells - 318-322
(g) 1,000 hp cells - 203, 204, 417-419
The following cells are supplied with natural gas:
(h) 500 hp cells - 121, 122, 303, 316-322, 401
(i) 1,000 hp cells - 203, 204, 417-419

3) Emission factors for the diesel test cells were supplied by the applicant from 1994 source testing data.

4) Emission factors for the LPG test cells were supplied by the applicant.

5) Emission factors for the natural gas test cells were supplied by the 1990 AIRS Facility Subsystem Classification Codes and Emission Factor Listing For Criteria Air Pollutants.

Appendix A: Emission Calculations
Engine Test Cells

Company Name: Cummins Engine Company, Columbus Technical Center - Plant 5
Address City IN Zip: 1900 McKinley Avenue, Columbus, Indiana 47201
Part 70: T005-7466
Plt ID: 005-00002
Reviewer: Peter E. Fountaine
Date: December 11, 1996

Capacity = 78,000 HP
Limited by 15.2% of total capacity at anyone time or 11829.558 HP

Stack	Point	Source	Potential Fuel Used per year	# of test Cells per year	Potential fuel per cell/yr	Fuel Units	Fuel Type	Operating Rate ((units/hr)/cell)	VOC Factor (lbs/unit)	Potential VOC ((lbs/hr)/cell)	Potential VOC ((tons/yr)/cell)	Potential ((VOC/hp)/cell) (tons/yr)	Potential VOC-all cells (tons/yr)	Total Capacity HP	Partial HP used	Worst case VOC (tons/yr)
a	a	49-500 HP engine test cells	1612	49	32.9	kilogallons	#2 Diesel	0.00376	17.9	0.0672	0.294	**0.000589**	14.4	24500	**1000**	0.589
b	b	21-1000 HP engine test cells	1372	21	65.3	kilogallons	#2 Diesel	0.00746	17.9	0.134	0.585	0.000585	12.3	21000	0	0.00
c	c	12-1500 HP engine test cells	1078	12	89.8	kilogallons	#2 Diesel	0.0103	17.9	0.184	0.804	0.000536	9.65	18000	0	0.00
d	d	6-2000 HP engine test cells	915	6	153	kilogallons	#2 Diesel	0.0174	17.9	0.312	1.36	0.000682	8.19	12000	0	0.00
e	e	1-3000 HP engine test cells	196	1	196	kilogallons	#2 Diesel	0.0224	17.9	0.401	1.75	0.000585	1.75	3000	0	0.00
f	f	5-500 HP engine test cells	229	5	45.7	kilogallons	LPG	0.00522	83.0	0.433	1.90	**0.00379**	9.49	2500	**2500**	9.49
g	g	5-1000 HP engine test cells	457	5	91.4	kilogallons	LPG	0.0104	83.0	0.866	3.79	**0.00379**	19.0	5000	**5000**	19.0
220	220	1500 HP engine test cell	137	1	137	kilogallons	LPG	0.0157	83.0	1.30	5.69	**0.00380**	5.69	1500	**1500**	5.69
420	420	2000 HP engine test cell	549	1	549	kilogallons	LPG	0.0626	83.0	5.20	22.8	**0.0114**	22.8	2000	**2000**	22.8
h	h	11-500 HP engine test cells	50.2	11	4.56	MM SCF	Natural Gas	0.000521	82.9	0.0432	0.189	0.000378	2.08	5500	0	0.00
j	j	5-1000 HP engine test cells	45.6	5	9.12	MM SCF	Natural Gas	0.00104	82.9	0.0863	0.378	0.000378	1.89	5000	0	0.00
220	220	1500 HP engine test cell	13.7	1	13.7	MM SCF	Natural Gas	0.00156	82.9	0.130	0.568	0.000379	0.568	1500	0	0.00
410, 414	410, 414	2-2000 HP engine test cells	36.5	2	18.3	MM SCF	Natural Gas	0.00208	82.9	0.173	0.756	0.000378	1.51	4000	0	0.00
CD	731, 732	2-500 HP chassis dynomometer cells	65.3	2	32.7	kilogallons	#2 Diesel	0.00373	17.9	0.0667	0.292	0.000584	0.584	1000	0	0.00
													Partial HP used:	**12000**		**57.5**
711-715	711-715	5-Turbo stand cells	678	5	136	kilogallons	#2 Diesel	0.0155	17.9	0.277	1.214	0.00202	6.07	2700	2700	5.46

Total Pollutant (tons/yr): 63.0

1) Stack/Point/Segment numbers identify the emission point:
-Stack refers to a physical stack location
-Point represents an emission unit attached to a stack
-Segment numbers are assigned to mulitple operating scenarios

2) The following unit ID (Point) and Stack numbers have been previously assigned to the test cells:
(a) 500 hp cells - 101-122, 216-218, 301-322, 401, 423
(b) 1,000 hp cells - 201-215, 219, 402, 403, 417-419
(c) 1,500 hp cells - 200-222, 404-409, 421, 422
(d) 2,000 hp cells - 410-415, 420
(e) 3,000 hp cells - 416
The following cells are supplied with propane:
(f) 500 hp cells - 318-322
(g) 1,000 hp cells - 203, 204, 417-419
The following cells are supplied with natural gas:
(h) 500 hp cells - 121, 122, 303, 316-322, 401
(i) 1,000 hp cells - 203, 204, 417-419

The following cells are supplied with propane:
(f) 500 hp cells - 318-322
(g) 1,000 hp cells - 203, 204, 417-419
The following cells are supplied with natural gas:
(h) 500 hp cells - 121, 122, 303, 316-322, 401
(i) 1,000 hp cells - 203, 204, 417-419

3) Emission factors for the diesel test cells were supplied by the applicant from 1994 source testing data.

4) Emission factors for the LPG test cells were supplied by the applicant.

5) Emission factors for the natural gas test cells were supplied by the 1990 AIRS Facility Subsystem Classification Codes and Emission Factor Listing For Criteria Air Pollutants.

Appendix A: Emission Calculations
Engine Test Cells

Company Name: Cummins Engine Company, Columbus Technical Center - Plant 5
Address City IN Zip: 1900 McKinley Avenue, Columbus, Indiana 47201
Part 70: T005-7466
Plt ID: 005-00002
Reviewer: Peter E. Fountaine
Date: December 11, 1996

Capacity = 78,000 HP
Limited by 15.2% of total capacity at anyone time or 11829.558 HP

Stack	Point	Source	Potential Fuel Used per year	# of test Cells per year	Potential fuel per cell/yr	Fuel Units	Fuel Type	Operating Rate ((units/hr)/cell)	SO2 Factor (lbs/unit)	Potential SO2 ((lbs/hr)/cell)	Potential SO2 ((tons/yr)/cell)	Potential ((SO2/hp)/cell) (tons/yr)	Potential SO2-all cells (tons/yr)	Total Capacity HP	Partial HP used	Worst case SO2 (tons/yr)
a	a	49-500 HP engine test cells	1612	49	32.9	kilogallons	#2 Diesel	0.00376	7.09	0.0266	0.117	0.000233	5.71	24500	0	0.00
b	b	21-1000 HP engine test cells	1372	21	65.3	kilogallons	#2 Diesel	0.00746	7.09	0.0529	0.232	0.000232	4.86	21000	0	0.00
c	c	12-1500 HP engine test cells	1078	12	89.8	kilogallons	#2 Diesel	0.0103	7.09	0.0727	0.318	0.000212	3.82	18000	0	0.00
d	d	6-2000 HP engine test cells	915	6	153	kilogallons	#2 Diesel	0.0174	7.09	0.123	0.541	**0.000270**	3.24	12000	**12000**	3.24
e	e	1-3000 HP engine test cells	196	1	196	kilogallons	#2 Diesel	0.0224	7.09	0.159	0.695	0.000232	0.695	3000	0	0.00
f	f	5-500 HP engine test cells	229	5	45.7	kilogallons	LPG	0.00522	0.350	0.00183	0.00800	0.0000160	0.0400	2500	0	0.00
g	g	5-1000 HP engine test cells	457	5	91.4	kilogallons	LPG	0.0104	0.350	0.00365	0.0160	0.0000160	0.080	5000	0	0.00
220	220	1500 HP engine test cell	137	1	137	kilogallons	LPG	0.0157	0.350	0.00548	0.0240	0.0000160	0.0240	1500	0	0.00
420	420	2000 HP engine test cell	549	1	549	kilogallons	LPG	0.0626	0.350	0.0219	0.0960	0.0000480	0.0960	2000	0	0.00
h	h	11-500 HP engine test cells	50.2	11	4.56	MM SCF	Natural Gas	0.000521	0.600	0.000313	0.00137	0.00000274	0.0151	5500	0	0.00
j	j	5-1000 HP engine test cells	45.6	5	9.12	MM SCF	Natural Gas	0.00104	0.600	0.000625	0.00274	0.00000274	0.0137	5000	0	0.00
220	220	1500 HP engine test cell	13.7	1	13.7	MM SCF	Natural Gas	0.00156	0.600	0.000938	0.00411	0.00000274	0.00411	1500	0	0.00
410, 414	410, 414	2-2000 HP engine test cells	36.5	2	18.3	MM SCF	Natural Gas	0.00208	0.600	0.00125	0.00548	0.00000274	0.0110	4000	0	0.00
CD	731, 732	2-500 HP chassis dynomometer cells	65.3	2	32.7	kilogallons	#2 Diesel	0.00373	7.09	0.0264	0.116	0.000231	0.231	1000	0	0.00
													Partial HP used:	**12000**		**3.24**
711-715	711-715	5-Turbo stand cells	678	5	136	kilogallons	#2 Diesel	0.0155	7.09	0.110	0.481	0.000801	2.40	2700	2700	2.16

Total Pollutant (tons/yr): 5.41

1) Stack/Point/Segment numbers identify the emission point:
-Stack refers to a physical stack location
-Point represents an emission unit attached to a stack
-Segment numbers are assigned to mulitple operating scenarios

2) The following unit ID (Point) and Stack numbers have been previously assigned to the test cells:
(a) 500 hp cells - 101-122, 216-218, 301-322, 401, 423
(b) 1,000 hp cells - 201-215, 219, 402, 403, 417-419
(c) 1,500 hp cells - 200-222, 404-409, 421, 422
(d) 2,000 hp cells - 410-415, 420
(e) 3,000 hp cells - 416
The following cells are supplied with propane:
(f) 500 hp cells - 318-322
(g) 1,000 hp cells - 203, 204, 417-419
The following cells are supplied with natural gas:
(h) 500 hp cells - 121, 122, 303, 316-322, 401
(i) 1,000 hp cells - 203, 204, 417-419

The following cells are supplied with propane:
(f) 500 hp cells - 318-322
(g) 1,000 hp cells - 203, 204, 417-419
The following cells are supplied with natural gas:
(h) 500 hp cells - 121, 122, 303, 316-322, 401
(i) 1,000 hp cells - 203, 204, 417-419

3) Emission factors for the diesel test cells were supplied by the applicant from 1994 source testing data.

4) Emission factors for the LPG test cells were supplied by the applicant.

5) Emission factors for the natural gas test cells were supplied by the 1990 AIRS Facility Subsystem Classification Codes and Emission Factor Listing For Criteria Air Pollutants.

Appendix A: Emission Calculations
Engine Test Cells

Company Name: Cummins Engine Company, Columbus Technical Center - Plant 5
Address City IN Zip: 1900 McKinley Avenue, Columbus, Indiana 47201
Part 70: T005-7466
Plt ID: 005-00002
Reviewer: Peter E. Fountaine
Date: December 11, 1996

Capacity = 78,000 HP
Limited by 15.2% of total capacity at anyone time or 11829.558 HP

Stack	Point	Source	Potential Fuel Used per year	# of test Cells per year	Potential fuel per cell/yr	Fuel Units	Fuel Type	Operating Rate ((units/hr)/cell)	CO Factor (lbs/unit)	Potential CO ((lbs/hr)/cell)	Potential CO ((tons/yr)/cell)	Potential ((CO/hp)/cell) (tons/yr)	Potential CO-all cells (tons/yr)	Total Capacity HP	Partial HP used	Worst case CO (tons/yr)
a	a	49-500 HP engine test cells	1612	49	32.9	kilogallons	#2 Diesel	0.00376	55.8	0.210	0.918	0.00184	45.0	24500	0	0.00
b	b	21-1000 HP engine test cells	1372	21	65.3	kilogallons	#2 Diesel	0.00746	55.8	0.416	1.82	0.00182	38.3	21000	0	0.00
c	c	12-1500 HP engine test cells	1078	12	89.8	kilogallons	#2 Diesel	0.0103	55.8	0.572	2.51	0.00167	30.1	18000	0	0.00
d	d	6-2000 HP engine test cells	915	6	153	kilogallons	#2 Diesel	0.0174	55.8	0.971	4.25	0.00213	25.5	12000	0	0.00
e	e	1-3000 HP engine test cells	196	1	196	kilogallons	#2 Diesel	0.0224	55.8	1.25	5.47	0.00182	5.47	3000	0	0.00
f	f	5-500 HP engine test cells	229	5	45.7	kilogallons	LPG	0.00522	129	0.673	2.95	**0.00590**	14.7	2500	**2500**	14.7
g	g	5-1000 HP engine test cells	457	5	91.4	kilogallons	LPG	0.01044	129	1.35	5.90	**0.00590**	29.5	5000	**5000**	29.5
220	220	1500 HP engine test cell	137	1	137	kilogallons	LPG	0.0157	129	2.02	8.85	**0.00590**	8.85	1500	**1500**	8.85
420	420	2000 HP engine test cell	549	1	549	kilogallons	LPG	0.0626	129	8.08	35.4	**0.0177**	35.4	2000	**2000**	35.4
h	h	11-500 HP engine test cells	50.2	11	4.56	MM SCF	Natural Gas	0.000521	430	0.224	0.981	**0.00196**	10.8	5500	**1000**	1.96
j	j	5-1000 HP engine test cells	45.6	5	9.12	MM SCF	Natural Gas	0.00104	430	0.448	1.96	0.00196	9.80	5000	0	0.00
220	220	1500 HP engine test cell	13.7	1	13.7	MM SCF	Natural Gas	0.00156	430	0.672	2.95	0.00196	2.95	1500	0	0.00
410, 414	410, 414	2-2000 HP engine test cells	36.5	2	18.3	MM SCF	Natural Gas	0.00208	430	0.896	3.92	0.00196	7.85	4000	0	0.00
CD	731, 732	2-500 HP chassis dynomometer cells	65.3	2	32.7	kilogallons	#2 Diesel	0.00373	55.8	0.208	0.911	0.00182	1.82	1000	0	0.00
															Partial HP used:	**12000** **90.4**
711-715	711-715	5-Turbo stand cells	678	5	136	kilogallons	#2 Diesel	0.0155	55.8	0.864	3.78	0.00631	18.9	2700	2700	17.0

Total Pollutant (tons/yr): 107

1) Stack/Point/Segment numbers identify the emission point:
-Stack refers to a physical stack location
-Point represents an emission unit attached to a stack
-Segment numbers are assigned to mulitple operating scenarios

2) The following unit ID (Point) and Stack numbers have been previously assigned to the test cells:
(a) 500 hp cells - 101-122, 216-218, 301-322, 401, 423
(b) 1,000 hp cells - 201-215, 219, 402, 403, 417-419
(c) 1,500 hp cells - 200-222, 404-409, 421, 422
(d) 2,000 hp cells - 410-415, 420
(e) 3,000 hp cells - 416
The following cells are supplied with propane:
(f) 500 hp cells - 318-322
(g) 1,000 hp cells - 203, 204, 417-419
The following cells are supplied with natural gas:
(h) 500 hp cells - 121, 122, 303, 316-322, 401
(i) 1,000 hp cells - 203, 204, 417-419

The following cells are supplied with propane:
(f) 500 hp cells - 318-322
(g) 1,000 hp cells - 203, 204, 417-419
The following cells are supplied with natural gas:
(h) 500 hp cells - 121, 122, 303, 316-322, 401
(i) 1,000 hp cells - 203, 204, 417-419

3) Emission factors for the diesel test cells were supplied by the applicant from 1994 source testing data.

4) Emission factors for the LPG test cells were supplied by the applicant.

5) Emission factors for the natural gas test cells were supplied by the 1990 AIRS Facility Subsystem Classification Codes and Emission Factor Listing For Criteria Air Pollutants.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
10 < MM BTU/HR <100
Small Industrial Boiler

Company Name: Cummins Engine Company, Columbus Technical Center - Plant 5
Address City IN Zip: 1900 McKinley Avenue, Columbus, IN 47201
Part 70: T005-7466
Plt ID: 005-00002
Reviewer: Peter E. Fountaine
Date: December 11, 1996

Heat Input Capacity MMBtu/hr		Potential Throughput MMCF/yr
89.6	**Boilers #1- #4**	784.9

	Pollutant					
	PM	PM10	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	13.7	13.7	0.6	140.0	2.8	35.0
Potential Emission in tons/yr	5.38	5.38	0.235	54.9	1.10	13.7

Heat Input Capacity MMBtu/hr		Potential Throughput MMCF/yr
14.6	**Boiler #5**	127.9

	Pollutant					
	PM	PM10	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	13.7	13.7	0.6	140.0	2.8	35.0
Potential Emission in tons/yr	0.876	0.876	0.0384	8.95	0.179	2.24

	PM	PM10	SO2	NOx	VOC	CO
Total Boiler Emissions (tons/yr):	6.25	6.25	0.274	63.9	1.28	16.0

Methodology

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Emission Factors for NOx: Uncontrolled = 140, Low NOx Burner = 81, Flue gas recirculation = 30

Emission Factors for CO: Uncontrolled = 35, Low NOx Burner = 61, Flue gas recirculation = 37

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Appendix A: Emissions Calculations
No. 2 Fuel Oil
10 < MM BTU/HR <100
Small Industrial Boiler

Company Name: **Cummins Engine Company, Columbus Technical Center - Plant 5**
Address, City IN Zip: **1900 McKinley Avenue, Columbus, IN 47201**
Part 70: **T005-7466**
Plt ID: **005-00002**
Reviewer: **Peter E. Fountaine**
Date: **December 11, 1996**

Heat Input Capacity MMBtu/hr		Potential Throughput kgals/year	S = Weight % Sulfur
			0.05
89.6	**Boilers #1- #4**	5606	

	Pollutant				
	PM	SO2	NOx	VOC	CO
Emission Factor in lb/kgal	2.0	7.1 *(142.0S)*	20.0	0.20	5.0
Potential Emission in tons/yr	5.61	19.9	56.1	0.561	14.0

Heat Input Capacity MMBtu/hr		Potential Throughput kgals/year	S = Weight % Sulfur
			0.05
14.6	**Boiler #5**	914	

	Pollutant				
	PM	SO2	NOx	VOC	CO
Emission Factor in lb/kgal	2.0	7.1 *(142.0S)*	20.0	0.20	5.0
Potential Emission in tons/yr	0.914	3.24	9.14	0.0914	2.28

	PM	SO2	NOx	VOC	CO
Total Boiler Emissions (tons/yr):	6.52	23.1	65.2	0.652	16.3

Methodology

1 gallon of No. 2 Fuel Oil has a heating value of 140,000 Btu

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.140 MM Btu

Emission Factors are from AP 42, Tables 1.3-2 and 1.3-4 (SCC 1-02-005-01/02/03)

Emission (tons/yr) = Throughput (kgals/ yr) x Emission Factor (lb/kgal)/2,000 lb/ton

Appendix A: HAPs Calculations
Engine Test Cells

Company Name: Cummins Engine Company, Columbus Technical Center - Plant 5
Address City IN Zip: 1900 McKinley Avenue, Columbus, Indiana 47201
Part 70: T005-7466
Plt ID: 005-00002
Reviewer: Peter E. Fountaine
Date: December 11, 1996

Source	Pollutant	HAPs Content (lb/gal)	Potential Fuel Used (gal/yr)	Fuel Units	Fuel Type	Potential HAPs (lbs/yr)	Potential HAPs (tons/yr)
Test Cells	Acetaldehyde	0.0002	5238	kilogallons	#2 diesel	1048	0.524
	Acrolien	0.00002	5238	kilogallons	#2 diesel	105	0.0524
101-122	Benzene	0.0002	5238	kilogallons	#2 diesel	1048	0.524
201-222	1, 3 Butadiene	0.00001	5238	kilogallons	#2 diesel	52.4	0.0262
301-322	Formaldehyde	0.0003	5238	kilogallons	#2 diesel	1571	0.786
401-423	Toluene	0.0001	5238	kilogallons	#2 diesel	524	0.262
731-732	Xylenes	0.00007	5238	kilogallons	#2 diesel	367	0.183
	Polycyclic Organic Matter	0.00004	5238	kilogallons	#2 diesel	210	0.105
					Total Potential HAPs:		**2.46**

1) Emission factors for the diesel test cells were supplied by the applicant from 1994 source testing data.

2) The following unit ID (Point) and Stack numbers have been previously assigned to the test cells:
(a) 500 hp cells - 101-122, 216-218, 301-322, 401, 423
(b) 1,000 hp cells - 201-215, 219, 402, 403, 417-419
(c) 1,500 hp cells - 200-222, 404-409, 421, 422
(d) 2,000 hp cells - 410-415, 420
(e) 3,000 hp cells - 416
(f) Chassis Dynomometer cells - 731-732