



*Mitchell E. Daniels, Jr.*  
Governor

*Thomas W. Easterly*  
Commissioner

100 North Senate Avenue  
Indianapolis, Indiana 46204  
(317) 232-8603  
(800) 451-6027  
www.IN.gov/idem

TO: Interested Parties / Applicant  
DATE: December 6, 2006  
RE: Caterpillar, Inc. / 157-18082-00044  
FROM: Nisha Sizemore  
Chief, Permits Branch  
Office of Air Quality

### **Notice of Decision: Approval – Effective Immediately**

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3-7 and IC 13-15-6-1(b) or IC 13-15-6-1(a) require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Room 1049, Indianapolis, IN 46204.

For an **initial Title V Operating Permit**, a petition for administrative review must be submitted to the Office of Environmental Adjudication within **thirty (30)** days from the receipt of this notice provided under IC 13-15-5-3, pursuant to IC 13-15-6-1(b).

For a **Title V Operating Permit renewal**, a petition for administrative review must be submitted to the Office of Environmental Adjudication within **fifteen (15)** days from the receipt of this notice provided under IC 13-15-5-3, pursuant to IC 13-15-6-1(a).

The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

- (1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
- (2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
- (3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for considerations at any hearing; and
- (6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

Pursuant to 326 IAC 2-7-18(d), any person may petition the U.S. EPA to object to the issuance of an initial Title V operating permit, permit renewal, or modification within sixty (60) days of the end of the forty-five (45) day EPA review period. Such an objection must be based only on issues that were raised with reasonable specificity during the public comment period, unless the petitioner demonstrates that it was impracticable to raise such issues, or if the grounds for such objection arose after the comment period.

To petition the U.S. EPA to object to the issuance of a Title V operating permit, contact:

U.S. Environmental Protection Agency  
401 M Street  
Washington, D.C. 20406

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.



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Indianapolis, Indiana 46204-2251  
(317) 232-8603  
(800) 451-6027  
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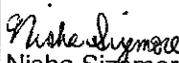
## New Source Construction, Prevention of Significant Deterioration (PSD) and Part 70 Operating Permit Renewal OFFICE OF AIR QUALITY

**Caterpillar, Inc.  
3701 State Road 26 East  
Lafayette, Indiana 47905**

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

**The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. Noncompliance with any provision of this permit, except any provision specifically designated as not federally enforceable, constitutes a violation of the Clean Air Act. 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. An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in Section B, Emergency Provisions.**

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 2-7as 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. This permit also addresses certain new source review requirements for existing equipment and is intended to fulfill the new source review procedures pursuant to 326 IAC 2-2 and 326 IAC 2-7-10.5, applicable to those conditions.

Operation Permit No.: T 157-18082-00044	
Issued by:  Nisha Sizemore, Chief Permits Branch Office of Air Quality	Issuance Date: December 6, 2006  Expiration Date: December 6, 2011

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## SECTION A

## SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). 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)][326 IAC 2-7-1(22)]

The Permittee owns and operates a stationary internal combustion engine manufacturing source.

Responsible Official:	Plant Manager
Source Address:	3701 State Road 26 East, Lafayette, IN 47905
Mailing Address:	3701 State Road 26 East, Lafayette, IN 47905
General Source Phone Number:	(765) 448-5510
SIC Code:	3519
County Location:	Tippecanoe
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Operating 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) boilers, identified as BY24010, BY24011, and BY24012, constructed in 1979, fired by natural gas or no. 2 fuel oil, exhausting to stack B-1, maximum heat input capacity: 83.3 million British thermal units per hour, each. Under 40 CFR 63, Subpart DDDDD, these are existing affected units in the large liquid fuel subcategory.
- (b) Twenty (20) 3500 engine test cells, identified as M501 through M520, constructed in 1979, exhausting at stack vents W-4 (A through T), maximum heat input capacity: 7.6 million British thermal units per hour, each, when operating on diesel fuel and 6.1 million British thermal units per hour, each, when operating on natural gas.
- (c) One (1) 3600 engine test cell, identified as M522, constructed in 1979, exhausting at stack vents W-8 (A and B), maximum heat input capacity: 7.6 million British thermal units per hour when operating on diesel fuel and 6.1 million British thermal units per hour when operating on natural gas.
- (d) One (1) packaging test cell, identified as M525, constructed in September 1988, exhausting at stack vents W-9 (A through D), maximum heat input capacity: 20.3 million British thermal units per hour when operating on diesel fuel and 13.7 million British thermal units per hour when operating on natural gas.
- (e) One (1) packaging test cell, identified as M526, constructed in 2006, exhausting at stack vents W-9 (A through D), maximum heat input capacity: 20.3 million British thermal units per hour when operating on diesel fuel and 13.7 million British thermal units per hour when operating on natural gas.
- (f) One (1) power module for parallel testing, identified as M547, constructed in October 1991, exhausting at stack vent W-10, maximum heat input capacity: 16.9 million British thermal units per hour when operating on diesel fuel and 16.9 million British thermal units per hour when

operating on natural gas.

- (g) One (1) dual fuel 3600 test stand, identified as M523, constructed in March 1994, exhausting at stack vents W-11 (A and B), maximum heat input capacity: 15.3 million British thermal units per hour when operating on diesel fuel and 11.0 million British thermal units per hour when operating on natural gas.
- (h) One (1) ABV Rock Test site, identified as M528, constructed in February 1996, exhausting at stack vent W-12A, maximum heat input capacity: 8.5 million British thermal units per hour when operating on diesel fuel and 8.5 million British thermal units per hour when operating on natural gas.
- (i) Three (3) peak shaving diesel generators, identified as EL45016, constructed in January 1995, exhausting at stack vents W-13 and W-14, maximum heat input capacity: 42.4 million British thermal units per hour, total.
- (j) Two (2) peak shaving diesel generators, also used as emergency generators, constructed in 1982, one (1) located in Building R and one (1) located in building B, maximum heat input capacity: 13.0 million British thermal units per hour, total.
- (k) Six (6) trailer mounted emergency generator sets, identified as Power Generators 1-6, located east of Building N, constructed in 2001, each rated at 1825 kw (prime power) with a maximum fueling rate of 123.9 gallons of no. 2 diesel fuel per hour, maximum heat input capacity: 102.8 million British thermal units per hour, total.
- (l) One (1) product paint booth, identified as M751, constructed in 1979, equipped with electrostatic airless spray guns and dry filters for overspray controls, exhausting at stack W-1, capacity: 15 engines per hour. Under 40 CFR 63, Subpart M MMM, this is part of an existing affected source in the general use subcategory.
- (m) One (1) product paint booth, identified as M775, constructed in 1979, equipped with electrostatic airless spray guns and dry filters for overspray controls, exhausting at stack W-2, capacity: 2.09 engines per hour. Under 40 CFR 63, Subpart M MMM, this is part of an existing affected source in the general use subcategory.
- (n) One (1) product paint booth, identified as M771, constructed in 1979, equipped with electrostatic airless spray guns and dry filters and a water wash system for overspray controls, exhausting at stack W-3, capacity: 1.25 to 5.25 engines per hour. Under 40 CFR 63, Subpart M MMM, this is part of an existing affected source in the general use subcategory.

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):

Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4,000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations. [326 IAC 6-3-2]

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 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, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-7) shall prevail.

### **B.2 Permit Term [326 IAC 2-7-5(2)][326 IAC 2-1.1-9.5][326 IAC 2-7-4(a)(1)(D)][IC 13-15-3-6(a)]**

- (a) This permit, T 157-18082-00044, is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-3-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.
- (b) If IDEM, OAQ, upon receiving a timely and complete renewal 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.

### **B.3 Term of Conditions [326 IAC 2-1.1-9.5]**

Notwithstanding the permit term of a permit to construct, a permit to operate, or a permit modification, any condition established in a permit issued pursuant to a permitting program approved in the state implementation plan shall remain in effect until:

- (a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or
- (b) the emission unit to which the condition pertains permanently ceases operation.

### **B.4 Enforceability [326 IAC 2-7-7]**

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

### **B.5 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.6 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.7 Duty to Provide Information [326 IAC 2-7-5(6)(E)]**

- (a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ 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. The submittal by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34). Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.
- (b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U.S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

B.8 Certification [326 IAC 2-7-4(f)][326 IAC 2-7-6(1)][326 IAC 2-7-5(3)(C)]

- (a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by the "responsible official" of truth, accuracy, and completeness. This certification 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, using the attached Certification Form, with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.
- (c) The "responsible official" is defined at 326 IAC 2-7-1(34).

B.9 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. All certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted no later than July 1 of each year to:

Indiana Department of Environmental Management  
Compliance Branch, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251

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, OAQ, on or before the date it is due.
- (c) The annual compliance certification report shall include the following:
  - (1) The appropriate identification of each term or condition of this permit that is the basis of the certification;
  - (2) The compliance status;
  - (3) Whether compliance was continuous or intermittent;
  - (4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-7-5(3); and
  - (5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ, 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.10 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 maintain and implement Preventive Maintenance Plans (PMPs) 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; and
  - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.
- (b) A copy of the PMPs shall be submitted to IDEM, OAQ, upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ, may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions or potential to emit. The PMPs do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (c) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

B.11 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.
- (b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a 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, OAQ, 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 Quality, Compliance Section), or  
Telephone Number: 317-233-0178 (ask for Compliance Section)  
Facsimile Number: 317-233-6865
  - (5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

Indiana Department of Environmental Management  
Compliance Branch, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251

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). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.
- (e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ, 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, OAQ, by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.
- (g) 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.
- (h) The Permittee shall include all emergencies in the Quarterly Deviation and Compliance Monitoring Report.

B.12 Permit Shield [326 IAC 2-7-15][326 IAC 2-7-20][326 IAC 2-7-12]

- (a) Pursuant to 326 IAC 2-7-15, the Permittee has been granted a permit shield. The permit shield provides that compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that either the applicable requirements are included and specifically identified in this permit or the permit contains an explicit determination or concise summary of a determination that other specifically identified requirements are not applicable. The Indiana statutes from IC 13 and rules from 326 IAC, referenced 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 or for applicable requirements for which a permit shield has been granted.

This permit shield does not extend to applicable requirements which are promulgated after the date of issuance of this permit unless this permit has been modified to reflect such new requirements.

- (b) 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, IDEM, OAQ, 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.
- (c) 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. Erroneous information means information that the Permittee knew to be false, or in the exercise of reasonable care should have been known to be false, at the time the information was submitted.
- (d) 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.
- (e) 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).
- (f) This permit shield is not applicable to modifications eligible for group processing until after IDEM, OAQ, has issued the modifications. [326 IAC 2-7-12(c)(7)]
- (g) This permit shield is not applicable to minor Part 70 permit modifications until after IDEM, OAQ, has issued the modification. [326 IAC 2-7-12(b)(8)]

**B.13** Prior Permits Superseded [326 IAC 2-1.1-9.5][326 IAC 2-7-10.5]

- (a) All terms and conditions of permits established prior to T 157-18082-00044 and issued pursuant to permitting programs approved into the state implementation plan have been either:
  - (1) incorporated as originally stated,
  - (2) revised under 326 IAC 2-7-10.5, or
  - (3) deleted under 326 IAC 2-7-10.5.



- (b) Provided that all terms and conditions are accurately reflected in this combined permit, all previous registrations and permits are superseded by this combined new source review and part 70 operating permit.

B.14 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.15 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 Data Section, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251

using the attached Quarterly Deviation and Compliance Monitoring Report, or its equivalent. A deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report.

The Quarterly Deviation and Compliance Monitoring Report does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (b) A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

B.16 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 Operating 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)] The notification by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ, 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, OAQ, 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, OAQ, at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ, may provide a shorter time period in the case of an emergency. [326 IAC 2-7-9(c)]

B.17 Permit Renewal [326 IAC 2-7-3][326 IAC 2-7-4][326 IAC 2-7-8(e)]

- (a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ, 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). The renewal application does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management  
Permits Branch, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251

- (b) A timely renewal application is one that is:
- (1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and
  - (2) 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, OAQ, on or before the date it is due.
- (c) 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, OAQ, 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, OAQ, any additional information identified as being needed to process the application.

B.18 Permit Amendment or Modification [326 IAC 2-7-11][326 IAC 2-7-12][40 CFR 72]

- (a) Permit amendments and modifications are governed by 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 Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251
- Any such application shall be certified by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (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.19 Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-7-5(8)]  
[326 IAC 2-7-12(b)(2)]

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- (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) 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.20 Operational Flexibility [326 IAC 2-7-20][326 IAC 2-7-10.5]

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- (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 preconstruction approval required by 326 IAC 2-7-10.5 has been obtained;
- (3) The changes do not result in emissions which exceed the limitations provided in 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 Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251

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

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

- (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). 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 is not considered an application form, report or compliance certification. Therefore, the notification 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 emissions increases and decreases at 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, OAQ, 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.21 Source Modification Requirement [326 IAC 2-7-10.5] [326 IAC 2-2-2] [326 IAC 2-3-2]

- (a) A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2 and 326 IAC 2-7-10.5.
- (b) Any modification at an existing major source is governed by the requirements of 326 IAC 2-2-2 and/or 326 IAC 2-3-2.

B.22 Inspection and Entry [326 IAC 2-7-6][IC 13-14-2-2][IC 13-30-3-1][IC 13-17-3-2]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, 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) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy any records that must be kept under the conditions of this permit;
- (c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;
- (d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring

compliance with this permit or applicable requirements.

B.23 Transfer of Ownership or Operational Control [326 IAC 2-7-11]

(a) The Permittee must comply with the requirements of 326 IAC 2-7-11 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.

(b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

Indiana Department of Environmental Management  
Permits Branch, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251

The application 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) 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.24 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)][326 IAC 2-1.1-7]

(a) The Permittee shall pay annual fees to IDEM, OAQ, within thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ, the applicable fee is due April 1 of each year.

(b) Except as provided in 326 IAC 2-7-19(e), 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 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.25 Advanced Source Modification Approval [326 IAC 2-7-5(16)] [326 IAC 2-7-10.5]

(a) The requirements to obtain a source modification approval under 326 IAC 2-7-10.5 or a permit modification under 326 IAC 2-7-12 are satisfied by this permit for the proposed emission units, control equipment or insignificant activities in Sections A.2 and A.3.

(b) Pursuant to 326 IAC 2-1.1-9 any permit authorizing construction may be revoked if construction of the emission unit has not commenced within eighteen (18) months from the date of issuance of the permit, or if during the construction, work is suspended for a continuous period of one (1) year or more.

B.26 Credible Evidence [326 IAC 2-7-5(3)][326 IAC 2-7-6][62 FR 8314] [326 IAC 1-1-6]

For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of any condition of this permit, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether the Permittee would have been in compliance with the condition of this permit if the appropriate performance or compliance test or procedure had been performed.

## SECTION C SOURCE OPERATION CONDITIONS

Entire Source

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

**C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour [326 IAC 6-3-2]**

Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour.

**C.2 Opacity [326 IAC 5-1]**

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), 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.3 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.4 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.5 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.6 Stack Height [326 IAC 1-7]**

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted. The provisions of 326 IAC 1-7-1(3), 326 IAC 1-7-2, 326 IAC 1-7-3(c) and (d), 326 IAC 1-7-4, and 326 IAC 1-7-5(a), (b), and (d) are not federally enforceable.

**C.7 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]**

- (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 Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. 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 applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable 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) **Demolition and Renovation**  
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).
- (g) **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 to use an Indiana Accredited Asbestos inspector is not federally enforceable.

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

#### **C.8 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 any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

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 Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ, if the Permittee submits to IDEM, OAQ, a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

#### **Compliance Requirements [326 IAC 2-1.1-11]**

##### **C.9 Compliance Requirements [326 IAC 2-1.1-11]**

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The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U.S. EPA.

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

##### **C.10 Compliance Monitoring [326 IAC 2-7-5(3)][326 IAC 2-7-6(1)]**

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Unless otherwise specified in this permit, all monitoring and record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance. If required by Section D, the Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. If due to circumstances beyond its control, that equipment cannot be installed and operated within ninety (90) days, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management  
Compliance Branch, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251

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).

Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for

new emission units or emission units added through a source modification shall be implemented when operation begins.

**C.11 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]**

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Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, 40 CFR 60 Appendix B, 40 CFR 63, 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.12 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]**

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

- (a) The Permittee prepared and submitted written emergency reduction plans (ERPs) consistent with safe operating procedures on December 12, 1996.
- (b) Upon direct notification by IDEM, OAQ, 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.13 Risk Management Plan [326 IAC 2-7-5(12)] [40 CFR 68]**

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If a regulated substance, as defined in 40 CFR 68, is present at a source in more than a threshold quantity, the Permittee must comply with the applicable requirements of 40 CFR 68.

**C.14 Response to Excursions or Exceedances [326 IAC 2-7-5] [326 IAC 2-7-6]**

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- (a) Upon detecting an excursion or exceedance, the Permittee shall restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.
- (b) The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Corrective actions may include, but are not limited to, the following:
  - (1) initial inspection and evaluation
  - (2) recording that operations returned to normal without operator action (such as through response by a computerized distribution control system); or
  - (3) any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.
- (c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:
  - (1) monitoring results;
  - (2) review of operation and maintenance procedures and records;
  - (3) inspection of the control device, associated capture system, and the process.
- (d) Failure to take reasonable response steps shall be considered a deviation from the permit.

- (e) The Permittee shall maintain the following records:
  - (1) monitoring data;
  - (2) monitor performance data, if applicable; and
  - (3) corrective actions taken.

**C.15 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 response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.
- (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, OAQ that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.
- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The response action documents submitted pursuant to this condition do 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.16 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) Pursuant to 326 IAC 2-6-3(a)(1), the Permittee shall submit by July 1 of each year an emission statement covering the previous calendar year. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4(c) and shall meet the following requirements:
  - (1) Indicate estimated actual emissions of all pollutants listed in 326 IAC 2-6-4(a);
  - (2) Indicate estimated actual emissions of regulated pollutants as defined by 326 IAC 2-7-1 (32) ("Regulated pollutant, which is used only for purposes of Section 19 of this rule") from the source, for purpose of fee assessment.

The statement must be submitted to:

Indiana Department of Environmental Management  
Technical Support and Modeling Section, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251

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

- (b) The 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, OAQ, on or before the date it is due.

C.17 General Record Keeping Requirements.[326 IAC 2-7-5(3)] [326 IAC 2-7-6] [326 IAC 2-2] [326 IAC 2-3]

- (a) Records of all required monitoring data, reports and support information required by this permit 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 physically present or electronically accessible at the source location for a minimum of three (3) years. 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 request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.
- (c) If there is a reasonable possibility that a “project” (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(ll)) at an existing emissions unit, other than projects at a Clean Unit (or at a source with Plant-wide Applicability Limitation (PAL)), which is not part of a “major modification” (as defined in 326 IAC 2-2-1(ee) and/or 326 IAC 2-3-1(z)) may result in significant emissions increase and the Permittee elects to utilize the “projected actual emissions” (as defined in 326 IAC 2-2-1(rr) and/or 326 IAC 2-3-1(mm)), the Permittee shall comply with following:
  - (1) Before beginning actual construction of the “project” (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(ll)) at an existing emissions unit, document and maintain the following records:
    - (A) A description of the project.
    - (B) Identification of any emissions unit whose emissions of a regulated new source review pollutant could be affected by the project.
    - (C) A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including:
      - (i) Baseline actual emissions;
      - (ii) Projected actual emissions;
      - (iii) Amount of emissions excluded under section 326 IAC 2-2-1(rr)(2)(A)(iii) and/or 326 IAC 2-3-1(mm)(2)(A)(iii); and
      - (iv) An explanation for why the amount was excluded, and any netting calculations, if applicable.
  - (2) Monitor the emissions of any regulated NSR pollutant that could increase as a result of the project and that is emitted by any existing emissions unit identified in (1)(B) above; and
  - (3) Calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of five (5) years following resumption of regular operations after the change, or for a period of ten (10) years following resumption of regular operations after the change if the project increases the design capacity of or the potential to emit that regulated NSR pollutant at the emissions unit.

C.18 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11] [326 IAC 2-2] [326 IAC 2-3]

- (a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The

Quarterly Deviation and Compliance Monitoring Report shall include the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (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 Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251

- (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, OAQ, on or before the date it is due.
- (d) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (e) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.
- (f) If the Permittee is required to comply with the recordkeeping provisions of (c) in Section C - General Record Keeping Requirements for any "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(ll)) at an existing emissions unit, and the project meets the following criteria, then the Permittee shall submit a report to IDEM, OAQ:
- (1) The annual emissions, in tons per year, from the project identified in (c)(1) in Section C - General Record Keeping Requirements exceed the baseline actual emissions, as documented and maintained under Section C - General Record Keeping Requirements (c)(1)(C)(i), by a significant amount, as defined in 326 IAC 2-2-1(xx) and/or 326 IAC 2-3-1(qq)), for that regulated NSR pollutant, and
  - (2) The emissions differ from the preconstruction projection as documented and maintained under Section C - General Record Keeping Requirements (c)(1)(C)(ii).
- (g) The report for project at an existing emissions unit shall be submitted within sixty (60) days after the end of the year and contain the following:
- (1) The name, address, and telephone number of the major stationary source.
  - (2) The annual emissions calculated in accordance with (c)(2) and (3) in Section C - General Record Keeping Requirements.
  - (3) The emissions calculated under the actual-to-projected actual test stated in 326 IAC 2-2-2(d)(3) and/or 326 IAC 2-3-2(c)(3).
  - (4) Any other information that the Permittee deems fit to include in this report,

Reports required in this part shall be submitted to:

Indiana Department of Environmental Management  
Air Compliance Section, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251

- (h) The Permittee shall make the information required to be documented and maintained in accordance with (c) in Section C - General Record Keeping Requirements available for review upon a request for inspection by IDEM, OAQ. The general public may request this information from the IDEM, OAQ, under 326 IAC 17.1.

### **Stratospheric Ozone Protection**

#### **C.19 Compliance with 40 CFR 82 and 326 IAC 22-1**

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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 EMISSIONS UNIT OPERATION CONDITIONS

### Emissions Unit Description: Boilers

- (a) Three (3) boilers, identified as BY24010, BY24011, and BY24012, constructed in 1979, fired by natural gas or no. 2 fuel oil, exhausting to stack B-1, maximum heat input capacity: 83.3 million British thermal units per hour, each. Under 40 CFR 63, Subpart DDDDD, these are existing affected units in the large liquid fuel subcategory.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

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

#### D.1.1 Particulate [326 IAC 6-2-3]

Pursuant to 326 IAC 6-2-3(e) (Particulate Emission Limitations for Sources of Indirect Heating) and CP 73-04-91-0408, issued on October 27, 1987, the PM emissions from the three (3) boilers, identified as BY24010, BY24011, and BY24012, constructed in 1979, with maximum capacities of 83.3 million British thermal units per hour, each shall be limited to 0.6 pounds per million British thermal units heat input.

#### D.1.2 Sulfur Dioxide (SO<sub>2</sub>) [326 IAC 7-1.1-1] [326 IAC 7-2-1]

Pursuant to 326 IAC 7-1.1 (SO<sub>2</sub> Emissions Limitations) the SO<sub>2</sub> emissions from the three (3) boilers, identified as BY24010, BY24011, and BY24012, shall not exceed five tenths (0.5) pound per million British thermal units heat input. Pursuant to 326 IAC 7-2-1, compliance shall be demonstrated on a thirty (30) day rolling weighted average.

#### D.1.3 PSD Minor Limit [326 IAC 2-2]

- (a) The sulfur content of the fuel oil for the three (3) boilers shall not exceed 0.29%.
- (b) The input of No. 2 fuel oil to the three (3) boilers shall be limited to less than 11,917,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (c) The SO<sub>2</sub> emissions when using No. 2 fuel oil shall not exceed 41.2 pounds per 1,000 gallons.

These usage and emission limits are required to limit the potential to emit SO<sub>2</sub> to less than 246 tons per year from the three (3) boilers. Compliance with these limits makes 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable.

#### D.1.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities.

### Compliance Determination Requirements

#### D.1.5 Sulfur Dioxide Emissions and Sulfur Content

Compliance with Condition D.1.2 shall be determined utilizing one of the following options.

- (a) Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate that the sulfur dioxide emissions do not exceed five-tenths (0.5) pounds per million British thermal units heat input and 0.29% by:
- (1) Providing vendor analysis of fuel delivered, if accompanied by a vendor certification,

or;

- (2) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.
  - (A) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and
  - (B) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.
- (b) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the three (3) boilers, identified as BY24010, BY24011, and BY24012, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

A determination of noncompliance pursuant to any of the methods specified in (a) or (b) above shall not be refuted by evidence of compliance pursuant to the other method.

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

#### **D.1.6 Visible Emissions Notations**

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- (a) Visible emission notations of the three (3) boilers, identified as BY24010, BY24011, and BY24012, stack exhaust (B-1) shall be performed once per day during normal daylight operations when operating on fuel oil and 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) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

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

#### **D.1.7 Record Keeping Requirements**

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- (a) To document compliance with Conditions D.1.2 and D.1.3, the Permittee shall maintain records in accordance with (1) through (5) below.
  - (1) Calendar dates covered in the compliance determination period;
  - (2) Actual fuel oil usage since last compliance determination period and equivalent sulfur dioxide emissions;

If the fuel supplier certification is used to demonstrate compliance, when burning alternate fuels and not determining compliance pursuant to 326 IAC 3-7-4, the following, as a minimum,

shall be maintained:

- (3) Fuel supplier certifications;
- (4) The name of the fuel supplier; and
- (5) A statement from the fuel supplier that certifies the sulfur content of the fuel oil.

The Permittee shall retain records of all recording/monitoring data and support information for a period of five (5) years, or longer if specified elsewhere in this permit, from the date of the monitoring sample, measurement, or report. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

- (b) To document compliance with Condition D.1.6, the Permittee shall maintain records of visible emission notations of the three (3) boilers, identified as BY24010, BY24011, and BY24012, stack exhausts once per day.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

#### D.1.8 Reporting Requirements

- (a) The natural gas boiler certification shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or its equivalent, within thirty (30) days after the end of the six (6) month period being reported. The natural gas-fired boiler certification does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (b) A quarterly summary of the information to document compliance with Condition D.1.3 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

#### **National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements [326 IAC 2-7-5(1)]**

##### D.1.9 General Provisions Relating to NESHAP Subpart DDDDD [326 IAC 20-1][40 CFR Part 63, Subpart A]

The provisions of 40 CFR 63 Subpart A - General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the affected sources, as designated by 40 CFR 63.7506(b), except when otherwise specified in 40 CFR 63 Subpart DDDDD. The Permittee must comply with these requirements on and after the effective date of 40 CFR 63, Subpart DDDDD.

##### D.1.10 National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters [40 CFR Part 63, Subpart DDDDD]

- (a) The affected sources are subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters, (40 CFR 63, Subpart DDDDD), as of the effective date of 40 CFR 63, Subpart DDDDD. Pursuant to this rule, the Permittee must comply with 40 CFR 63, Subpart DDDDD on and after September 13, 2007.
- (b) The following emissions units comprise the affected source for the large liquid fuel sub-category:

Three (3) boilers, identified as BY24010, BY24011, and BY24012, constructed in 1979, fired by natural gas or no. 2 fuel oil, exhausting to stack B-1, maximum heat input capacity: 83.3

million British thermal units per hour, each.

- (c) The definitions of 40 CFR 63, Subpart DDDDD at 40 CFR 63.7575 are applicable to the affected sources.

D.1.11 National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters - Notification Requirements [40 CFR 63, Subpart DDDDD]

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Pursuant to 40 CFR 63.7545(a) and 40 CFR 63.7506(b), the Permittee submitted an Initial Notification containing the information specified in 40 CFR 63.9(b)(2) on February 11, 2005.

## SECTION D.2

## FACILITY OPERATION CONDITIONS

### Facility Description [326 IAC 2-7-5(15)]: Test Cells subject to 326 IAC 2-2

- (b) Twenty (20) 3500 engine test cells, identified as M501 through M520, constructed in 1979, exhausting at stack vents W-4 (A through T), maximum heat input capacity: 7.6 million British thermal units per hour, each, when operating on diesel fuel and 6.1 million British thermal units per hour, each, when operating on natural gas.
- (c) One (1) 3600 engine test cell, identified as M522, constructed in 1979, exhausting at stack vents W-8 (A and B), maximum heat input capacity: 7.6 million British thermal units per hour when operating on diesel fuel and 6.1 million British thermal units per hour when operating on natural gas.
- (d) One (1) packaging test cell, identified as M525, constructed in September 1988, exhausting at stack vents W-9 (A through D), maximum heat input capacity: 20.3 million British thermal units per hour when operating on diesel fuel and 13.7 million British thermal units per hour when operating on natural gas.
- (e) One (1) packaging test cell, identified as M526, constructed in 2006, exhausting at stack vents W-9 (A through D), maximum heat input capacity: 20.3 million British thermal units per hour when operating on diesel fuel and 13.7 million British thermal units per hour when operating on natural gas.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

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

#### D.2.1 Prevention of Significant Deterioration (PSD) [326 IAC 2-2-3]

Pursuant to 326 IAC 2-2-3 (Control technology review; requirements), the Best Available Control Technology (BACT) for the twenty-one (21) engine test cells, identified as M501 - M520 and M522, and two (2) packaging test cells, identified as M525 and M526, is the following:

- (a) The total diesel throughput at the twenty-one (21) engine test cells, identified as M501 - M520 and M522, and two (2) packaging test cells, identified as M525 and M526, shall not exceed 2,400,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. For the purposes of this limit, one (1) million cubic feet natural gas usage shall be equivalent to 8.65 thousand gallons of diesel fuel at the test cells.
- (b) The NO<sub>x</sub> emissions from the twenty-one (21) engine test cells, identified as M501 - M520 and M522, and two (2) packaging test cells, identified as M525 and M526, shall not exceed 472 pounds per 1,000 gallons of diesel throughput.
- (c) The NO<sub>x</sub> emissions from the twenty-one (21) engine test cells, identified as M501 - M520 and M522, and two (2) packaging test cells, identified as M525 and M526, shall not exceed 277 pounds per million cubic feet of natural gas.

#### D.2.2 PSD Minor Limit [326 IAC 2-2]

- (a) The CO emissions from the twenty-one (21) engine test cells, identified as M501 - M520 and M522, and two (2) packaging test cells, identified as M525 and M526, when operating on diesel fuel shall not exceed 82.0 pounds per thousand gallons of diesel fuel.
- (b) The CO emissions from the twenty-one (21) engine test cells, identified as M501 - M520 and M522, and two (2) packaging test cells, identified as M525 and M526, when operating on natural gas shall not exceed 317 pounds per million cubic feet of natural gas.

These limits, in combination with the fuel usage limit in Condition D.2.1(a), will limit the potential to emit CO to less than 100 tons per year. Therefore, the requirements of 326 IAC 2-2, PSD, are not applicable based on CO emissions.

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

#### **D.2.3 Record Keeping Requirements**

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- (a) In order to document compliance with Condition D.2.1(a), the Permittee shall maintain records of the total amount of diesel fuel used on a monthly basis.
- (b) In order to document compliance with Condition D.2.1(a), the Permittee shall maintain records of the total amount of natural gas used on a monthly basis.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

#### **D.2.4 Reporting Requirements**

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A quarterly summary of the information to document compliance with Condition D.2.1(a) shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

### SECTION D.3

### FACILITY OPERATION CONDITIONS

#### Facility Description [326 IAC 2-7-5(15)]: Test Cells not subject to 326 IAC 2-2

- (f) One (1) power module for parallel testing, identified as M547, constructed in October 1991, exhausting at stack vent W-10, maximum heat input capacity: 16.9 million British thermal units per hour when operating on diesel fuel and 16.9 million British thermal units per hour when operating on natural gas.
- (g) One (1) dual fuel 3600 test stand, identified as M523, constructed in March 1994, exhausting at stack vents W-11 (A and B), maximum heat input capacity: 15.3 million British thermal units per hour when operating on diesel fuel and 11.0 million British thermal units per hour when operating on natural gas.
- (h) One (1) ABV Rock Test site, identified as M528, constructed in February 1996, exhausting at stack vent W-12A, maximum heat input capacity: 8.5 million British thermal units per hour when operating on diesel fuel and 8.5 million British thermal units per hour when operating on natural gas.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

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

##### D.3.1 PSD Minor Limit [326 IAC 2-2] [326 IAC 8-1-6]

- (a) Pursuant to T 157-7594-00044, issued on July 13, 1999, the one (1) power module, identified as M547, shall comply with the following limits:
  - (1) The input of diesel fuel to the one (1) power module shall be limited to 166,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. For the purposes of this NO<sub>x</sub> limit, one (1) million cubic feet of natural gas usage shall be equivalent to using 1,140 gallons of diesel fuel.
  - (2) The natural gas usage shall not exceed 76.1 million cubic feet per twelve (12) consecutive month period, with compliance determined at the end of each month. For the purposes of this VOC limit, 1,000 gallons of diesel fuel usage at this facility is equivalent to 0.051 million cubic feet of natural gas.
  - (3) The NO<sub>x</sub> emissions when using diesel fuel shall not exceed 448 pounds per 1,000 gallons and the NO<sub>x</sub> emissions when using natural gas shall not exceed 535 pounds per million cubic feet.
  - (4) The VOC emissions when using diesel fuel shall not exceed 32.1 pounds per 1,000 gallons and the VOC emissions when using natural gas shall not exceed 630 pounds per million cubic feet.

These usage and emission limits are required to limit the potential to emit NO<sub>x</sub> to less than 40 tons per year. Compliance with these limits makes 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable to M547. The fuel usage and VOC emissions limits also make 326 IAC 8-1-6, New facilities; General reduction requirements, not applicable to M547.

- (b) Pursuant to T 157-7594-00044 on July 13, 1999, the one (1) dual fuel 3600 test stand, identified as M523, shall comply with the following limitations:
  - (1) The input of diesel fuel to the one (1) dual fuel 3600 test stand shall be limited to 166,000 gallons per twelve (12) consecutive month period, with compliance deter-

mined at the end of each month. For the purposes of this NO<sub>x</sub> limit, one (1) million cubic feet of natural gas usage shall be equivalent to using 640 gallons of diesel fuel.

- (2) The NO<sub>x</sub> emissions when using diesel fuel shall not exceed 448 pounds per 1,000 gallons and the NO<sub>x</sub> emissions when using natural gas shall not exceed 300 pounds per million cubic feet.

Compliance with this limit makes 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable to M523.

- (c) Pursuant to T 157-7594-00044 on July 13, 1999, the one (1) ABV Rock Test site, identified as M528, shall comply with the following limitations:

- (1) The input of diesel fuel to the one (1) ABV Rock Test site, identified as M528, shall be limited to 166,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. For the purposes of this NO<sub>x</sub> limit, one (1) million cubic feet of natural gas usage shall be equivalent to using 5,970 gallons of diesel fuel.
- (2) The NO<sub>x</sub> emissions when using diesel fuel shall not exceed 448 pounds per 1,000 gallons and the NO<sub>x</sub> emissions when using natural gas shall not exceed 2,840 pounds per million cubic feet.

Compliance with this limit makes 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable to M528.

#### D.3.2 Sulfur Dioxide (SO<sub>2</sub>) [326 IAC 7-1.1-1] [326 IAC 7-2-1]

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Pursuant to 326 IAC 7-1.1 (SO<sub>2</sub> Emissions Limitations) the SO<sub>2</sub> emissions from the one (1) power module for parallel testing and one (1) dual fuel 3600 test stand shall not exceed five tenths (0.5) pound per million British thermal units heat input. Pursuant to 326 IAC 7-2-1, compliance shall be demonstrated on a thirty (30) day rolling weighted average.

### Compliance Determination Requirements

#### D.3.3 Sulfur Dioxide Emissions and Sulfur Content

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Compliance with Condition D.3.2 shall be determined utilizing one of the following options.

- (a) Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate that the sulfur dioxide emissions do not exceed five-tenths (0.5) pounds per million British thermal units heat input by:
  - (1) Providing vendor analysis of fuel delivered, if accompanied by a vendor certification, or;
  - (2) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.
    - (A) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and
    - (B) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.
- (b) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the one (1) power module for parallel testing and one (1) dual fuel 3600 test stand using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

A determination of noncompliance pursuant to any of the methods specified in (a) or (b) above shall not be refuted by evidence of compliance pursuant to the other method.

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

#### **D.3.4 Record Keeping Requirements**

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- (a) To document compliance with Conditions D.3.1 and D.3.2, the Permittee shall maintain records in accordance with (1) through (6) below.
- (1) Calendar dates covered in the compliance determination period;
  - (2) Actual fuel oil usage since last compliance determination period and equivalent sulfur dioxide emissions;
  - (3) To certify compliance when burning natural gas only, the Permittee shall maintain records of fuel used.

If the fuel supplier certification is used to demonstrate compliance, when burning alternate fuels and not determining compliance pursuant to 326 IAC 3-7-4, the following, as a minimum, shall be maintained:

- (4) Fuel supplier certifications;
- (5) The name of the fuel supplier; and
- (6) A statement from the fuel supplier that certifies the sulfur content of the fuel oil.

The Permittee shall retain records of all recording/monitoring data and support information for a period of five (5) years, or longer if specified elsewhere in this permit, from the date of the monitoring sample, measurement, or report. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

- (b) In order to document compliance with Conditions D.3.1(a)(1) and (2), (b)(1), (c)(1) and (d)(1), the Permittee shall maintain records of amount of natural gas and diesel fuel used at the one (1) power module for parallel testing, the one (1) dual fuel 3600 test stand, and the one (1) ABV Rock Test site.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

#### **D.3.5 Reporting Requirements**

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Quarterly summaries of the information to document compliance with Conditions D.3.1(a)(1), D.3.1(b)(1), and D.3.1(c)(1) shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

## SECTION D.4 FACILITY OPERATION CONDITIONS

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

- (i) Three (3) peak shaving diesel generators, identified as EL45016, constructed in January 1995, exhausting at stack vents W-13 and W-14, maximum heat input capacity: 42.4 million British thermal units per hour, total.
- (j) Two (2) peak shaving diesel generators, also used as emergency generators, constructed in 1982, one (1) located in Building R and one (1) located in building B, maximum heat input capacity: 13.0 million British thermal units per hour, total.
- (k) Six (6) trailer mounted emergency generator sets, identified as Power Generators 1-6, located east of Building N, constructed in 2001, each rated at 1825 kw (prime power) with a maximum fueling rate of 123.9 gallons of no. 2 diesel fuel per hour, maximum heat input capacity: 102.8 million British thermal units per hour, total.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

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

#### D.4.1 PSD Minor Limit [326 IAC 2-2] [326 IAC 8-1-6]

- (a) Pursuant to T 157-7594-00044, issued on July 13, 1999, and Significant Source Modification 157-11970-00044, issued on May 15, 2000, the five (5) peak shaving diesel generators shall comply with the following limits:

- (1) The input of diesel fuel to the five (5) peak shaving diesel generators shall be limited to 166,000 gallons per twelve (12) consecutive months, with compliance determined at the end of each month.
- (2) The NO<sub>x</sub> emissions shall not exceed 448 pounds per 1,000 gallons.
- (3) The SO<sub>2</sub> emissions shall not exceed 70.7 pounds per thousand gallons.

Compliance with these limits makes 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable.

- (b) Pursuant to T 157-7594-00044, issued on July 13, 1999, and Significant Source Modification 157-11970-00044, issued on May 15, 2000, the six (6) trailer mounted generator sets shall comply with the following limits:

- (1) The input of diesel fuel to the six (6) trailer mounted generator sets shall be limited to less than 114,412.87 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (2) The NO<sub>x</sub> emissions shall not exceed 437 pounds per 1,000 gallons.

Compliance with these limits makes 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable.

#### D.4.2 Sulfur Dioxide (SO<sub>2</sub>) [326 IAC 7-1.1-1] [326 IAC 7-2-1]

Pursuant to 326 IAC 7-1.1 (SO<sub>2</sub> Emissions Limitations) the SO<sub>2</sub> emissions from the five (5) peak shaving diesel generators shall not exceed five tenths (0.5) pound per million British thermal units

heat input. Pursuant to 326 IAC 7-2-1, compliance shall be demonstrated on a thirty (30) day rolling weighted average.

#### D.4.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

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A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities.

### Compliance Determination Requirements

#### D.4.4 Sulfur Dioxide Emissions and Sulfur Content

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Compliance with Condition D.4.2 shall be determined utilizing one of the following options.

- (a) Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate that the sulfur dioxide emissions do not exceed five-tenths (0.5) pounds per million British thermal units heat input by:
  - (1) Providing vendor analysis of fuel delivered, if accompanied by a vendor certification, or;
  - (2) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.
    - (A) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and
    - (B) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.
- (b) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the five (5) peak shaving diesel generators using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

A determination of noncompliance pursuant to any of the methods specified in (a) or (b) above shall not be refuted by evidence of compliance pursuant to the other method.

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

#### D.4.5 Visible Emissions Notations

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- (a) Visible emission notations of the five (5) peak shaving diesel generators and six (6) trailer mounted generators stack exhausts shall be performed once per day during normal daylight operations 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) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take

response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

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

### **D.4.6 Record Keeping Requirements**

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- (a) In order to document compliance with Conditions D.4.1(a)(1) and D.4.1(b)(1), the Permittee shall maintain records of amount of diesel fuel used at the five (5) peak shaving diesel generators and six (6) trailer mounted generator.
- (b) To document compliance with Condition D.4.2, the Permittee shall maintain records in accordance with (1) through (6) below.
  - (1) Calendar dates covered in the compliance determination period;
  - (2) Actual fuel oil usage since last compliance determination period and equivalent sulfur dioxide emissions;
  - (3) To certify compliance when burning natural gas only, the Permittee shall maintain records of fuel used.

If the fuel supplier certification is used to demonstrate compliance, when burning alternate fuels and not determining compliance pursuant to 326 IAC 3-7-4, the following, as a minimum, shall be maintained:

- (4) Fuel supplier certifications;
- (5) The name of the fuel supplier; and
- (6) A statement from the fuel supplier that certifies the sulfur content of the fuel oil.

The Permittee shall retain records of all recording/monitoring data and support information for a period of five (5) years, or longer if specified elsewhere in this permit, from the date of the monitoring sample, measurement, or report. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

- (c) To document compliance with Condition D.4.5, the Permittee shall maintain records of visible emission notations of the five (5) peak shaving diesel generators and six (6) trailer mounted generator stack exhausts once per day.
- (d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

### **D.4.7 Reporting Requirements**

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Quarterly summaries of the information to document compliance with Conditions D.4.1(a)(1) and D.4.1(b)(1) shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

## SECTION D.5 FACILITY OPERATION CONDITIONS

### Facility Description [326 IAC 2-7-5(15)]: Surface Coating

- (l) One (1) product paint booth, identified as M751, constructed in 1979, equipped with electrostatic airless spray guns and dry filters for overspray controls, exhausting at stack W-1, capacity: 15 engines per hour. Under 40 CFR 63, Subpart M MMMM, this is part of an existing affected source in the general use subcategory.
- (m) One (1) product paint booth, identified as M775, constructed in 1979, equipped with electrostatic airless spray guns and dry filters for overspray controls, exhausting at stack W-2, capacity: 2.09 engines per hour. Under 40 CFR 63, Subpart M MMMM, this is part of an existing affected source in the general use subcategory.
- (n) One (1) product paint booth, identified as M771, constructed in 1979, equipped with electrostatic airless spray guns and dry filters and a water wash system for overspray controls, exhausting at stack W-3, capacity: 1.25 to 5.25 engines per hour. Under 40 CFR 63, Subpart M MMMM, this is part of an existing affected source in the general use subcategory.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

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

#### D.5.1 Volatile Organic Compound (VOC) [326 IAC 8-2-9]

Pursuant to 326 IAC 8-2-9, the Permittee shall not allow the discharge into the atmosphere VOC in excess of three and five-tenths (3.5) pounds of VOC per gallon of coating, excluding water, as delivered to the applicators at the three (3) product paint booths, identified as M751, M775 and M771.

#### D.5.2 Volatile Organic Compound (VOC) Limitations, Clean-up Requirements [326 IAC 8-2-9(f)]

Pursuant to 326 IAC 8-2-9(f), all solvents sprayed from the application equipment of the three (3) product paint booths, identified as M751, M775 and M771, during cleanup or color changes shall be directed into containers. Said containers shall be closed as soon as the solvent spraying is complete. In addition, all waste solvent shall be disposed of in such a manner that minimizes evaporation.

#### D.5.3 PSD Minor Limit [326 IAC 2-2]

Pursuant to T 157-7594-00044, issued on July 13, 1999, the VOC usage including coatings, dilution solvents, and cleaning solvents, at the three (3) product paint booths, identified as M751, M775 and M771, all constructed in 1979, shall be limited to 249 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. Compliance with this limit makes 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable.

#### D.5.4 Particulate [326 IAC 6-3-2(d)]

Pursuant to 326 IAC 6-3-2(d), particulate from the surface coating shall be controlled by a dry particulate filter, and the Permittee shall operate the control device in accordance with manufacturer's specifications.

#### D.5.5 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and their control devices.

## Compliance Determination Requirements

### D.5.6 Volatile Organic Compounds (VOC) [326 IAC 8-1-4] [326 IAC 8-1-2(a)]

Compliance with the VOC content and usage limitations contained in Conditions D.5.1 and D.5.3 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) by preparing or obtaining from the manufacturer the copies of the "as supplied" and "as applied" VOC data sheets. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

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

### D.5.7 Monitoring

- (a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the surface coating booth stacks (W-1, W-2 and W-3) while one or more of the booths are in operation. If a condition exists which should result in a response step, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.
- (b) Monthly inspections shall be performed of the coating emissions from the stacks and the presence of overspray on the rooftops and the nearby ground. When there is a noticeable change in overspray emissions, or when evidence of overspray emissions is observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

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

### D.5.8 Record Keeping Requirements

- (a) To document compliance with Conditions D.5.1 and D.5.3, the Permittee shall maintain records in accordance with (1) through (5) below. Records maintained for (1) through (5) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits established in Conditions D.5.1 and D.5.3. Records necessary to demonstrate compliance shall be available within thirty (30) days of the end of each compliance period.
  - (1) The VOC content of each coating material and solvent used.
  - (2) The amount of coating material and solvent less water used on monthly basis.
    - (A) Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used.
    - (B) Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents.
  - (3) The cleanup solvent usage for each month;
  - (4) The total VOC usage for each month; and
  - (5) The weight of VOCs emitted for each compliance period.
- (b) To document compliance with Condition D.5.7, the Permittee shall maintain a log of weekly overspray observations, and daily and monthly inspections.

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

#### D.5.9 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.5.3 shall be submitted to the addresses listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

#### **National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements [326 IAC 2-7-5(1)]**

#### D.5.10 General Provisions Relating to NESHAP Subpart M MMM [326 IAC 20-1] [40 CFR Part 63, Subpart A]

Pursuant to 40 CFR 63.3901, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1-1 for the three (3) product paint booths, identified as M751, M775 and M771, as specified in Table 2 of 40 CFR Part 63, Subpart M MMM in accordance with schedule in 40 CFR 63 Subpart M MMM.

#### D.5.11 NESHAP Subpart M MMM Requirements [40 CFR Part 63, Subpart M MMM]

Pursuant to CFR Part 63, Subpart M MMM, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart M MMM, for three (3) product paint booths, identified as M751, M775 and M771, as specified as follows.

#### **What This Subpart Covers**

##### *§ 63.3880 What is the purpose of this subpart?*

This subpart establishes national emission standards for hazardous air pollutants (NESHAP) for miscellaneous metal parts and products surface coating facilities. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations.

##### *§ 63.3881 Am I subject to this subpart?*

(a) Miscellaneous metal parts and products include, but are not limited to, metal components of the following types of products as well as the products themselves: motor vehicle parts and accessories, bicycles and sporting goods, recreational vehicles, extruded aluminum structural components, railroad cars, heavy duty trucks, medical equipment, lawn and garden equipment, electronic equipment, magnet wire, steel drums, industrial machinery, metal pipes, and numerous other industrial, household, and consumer products. Except as provided in paragraph (c) of this section, the source category to which this subpart applies is the surface coating of any miscellaneous metal parts or products, as described in paragraph (a)(1) of this section, and it includes the subcategories listed in paragraphs (a)(2) through (6) of this section.

(1) Surface coating is the application of coating to a substrate using, for example, spray guns or dip tanks. When application of coating to a substrate occurs, then surface coating also includes associated activities, such as surface preparation, cleaning, mixing, and storage. However, these activities do not comprise surface coating if they are not directly related to the application of the coating. Coating application with handheld, non-refillable aerosol containers, touch-up markers, marking pens, or the application of paper film or plastic film which may be pre-coated with an adhesive by the manufacturer are not coating operations for the purposes of this subpart.

(2) The general use coating subcategory includes all surface coating operations that are not high performance, magnet wire, rubber-to-metal, or extreme performance fluoropolymer coating operations.

(b) You are subject to this subpart if you own or operate a new, reconstructed, or existing affected source, as defined in §63.3882, that uses 946 liters (250 gallons (gal)) per year, or more, of coatings that contain hazardous air pollutants (HAP) in the surface coating of miscellaneous metal parts and products defined in paragraph (a) of this section; and that is a major source, is located at a major source, or is part of a major source of emissions of HAP. A major source of HAP emissions is any

stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit any single HAP at a rate of 9.07 megagrams (Mg) (10 tons) or more per year or any combination of HAP at a rate of 22.68 Mg (25 tons) or more per year. You do not need to include coatings that meet the definition of non-HAP coating contained in §63.3981 in determining whether you use 946 liters (250 gal) per year, or more, of coatings in the surface coating of miscellaneous metal parts and products.

*§ 63.3882 What parts of my plant does this subpart cover?*

(a) This subpart applies to each new, reconstructed, and existing affected source within each of the four subcategories listed in §63.3881(a).

(b) The affected source is the collection of all of the items listed in paragraphs (b)(1) through (4) of this section that are used for surface coating of miscellaneous metal parts and products within each subcategory.

(1) All coating operations as defined in §63.3981;

(2) All storage containers and mixing vessels in which coatings, thinners and/or other additives, and cleaning materials are stored or mixed;

(3) All manual and automated equipment and containers used for conveying coatings, thinners and/or other additives, and cleaning materials; and

(4) All storage containers and all manual and automated equipment and containers used for conveying waste materials generated by a coating operation.

(e) An affected source is existing if it is not new or reconstructed.

*§ 63.3883 When do I have to comply with this subpart?*

The date by which you must comply with this subpart is called the compliance date. The compliance date for each type of affected source is specified in paragraphs (a) through (c) of this section. The compliance date begins the initial compliance period during which you conduct the initial compliance demonstration described in §§63.3940, 63.3950, and 63.3960.

(b) For an existing affected source, the compliance date is the date 3 years after January 2, 2004.

(d) You must meet the notification requirements in §63.3910 according to the dates specified in that section and in subpart A of this part. Some of the notifications must be submitted before the compliance dates described in paragraphs (a) through (c) of this section.

## **Emission Limitations**

*§ 63.3890 What emission limits must I meet?*

(b) For an existing affected source, you must limit organic HAP emissions to the atmosphere from the affected source to the applicable limit specified in paragraphs (b)(1) through (5) of this section, except as specified in paragraph (c) of this section, determined according to the requirements in §63.3941, §63.3951, or §63.3961.

(1) For each existing general use coating affected source, limit organic HAP emissions to no more than 0.31 kg (2.6 lb) organic HAP per liter (gal) coating solids used during each 12-month compliance period.

*§ 63.3891 What are my options for meeting the emission limits?*

You must include all coatings (as defined in §63.3981), thinners and/or other additives, and cleaning materials used in the affected source when determining whether the organic HAP emission rate is equal to or less than the applicable emission limit in §63.3890. To make this determination, you must use at least one of the three compliance options listed in paragraphs (a) through (c) of this section. You may apply any of the compliance options to an individual coating operation, or to multiple coating operations as a group, or to the entire affected source. You may use different compliance options for different coating operations, or at different times on the same coating operation. You may employ different compliance options when different coatings are applied to the same part, or when the same coating is applied to different parts. However, you may not use different compliance options at the same time on the same coating operation. If you switch between compliance options for any coating

operation or group of coating operations, you must document this switch as required by §63.3930(c), and you must report it in the next semiannual compliance report required in §63.3920.

(a) *Compliant material option.* Demonstrate that the organic HAP content of each coating used in the coating operation(s) is less than or equal to the applicable emission limit in §63.3890, and that each thinner and/or other additive, and cleaning material used contains no organic HAP. You must meet all the requirements of §§63.3940, 63.3941, and 63.3942 to demonstrate compliance with the applicable emission limit using this option.

§ 63.3892 *What operating limits must I meet?*

(a) For any coating operation(s) on which you use the compliant material option or the emission rate without add-on controls option, you are not required to meet any operating limits.

§ 63.3893 *What work practice standards must I meet?*

(a) For any coating operation(s) on which you use the compliant material option or the emission rate without add-on controls option, you are not required to meet any work practice standards.

### **General Compliance Requirements**

§ 63.3900 *What are my general requirements for complying with this subpart?*

(a) You must be in compliance with the emission limitations in this subpart as specified in paragraphs (a)(1) and (2) of this section.

(1) Any coating operation(s) for which you use the compliant material option or the emission rate without add-on controls option, as specified in §63.3891(a) and (b), must be in compliance with the applicable emission limit in §63.3890 at all times.

(b) You must always operate and maintain your affected source, including all air pollution control and monitoring equipment you use for purposes of complying with this subpart, according to the provisions in §63.6(e)(1)(i).

§ 63.3901 *What parts of the General Provisions apply to me?*

Table 2 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you.

### **Notifications, Reports, and Records**

§ 63.3910 *What notifications must I submit?*

(a) *General.* You must submit the notifications in §§63.7(b) and (c), 63.8(f)(4), and 63.9(b) through (e) and (h) that apply to you by the dates specified in those sections, except as provided in paragraphs (b) and (c) of this section.

(b) *Initial Notification.* You must submit the initial notification required by §63.9(b) for a new or reconstructed affected source no later than 120 days after initial startup or 120 days after January 2, 2004, whichever is later. For an existing affected source, you must submit the initial notification no later than 1 year after January 2, 2004. If you are using compliance with the Surface Coating of Automobiles and Light-Duty Trucks NESHAP (subpart IIII of this part) as provided for under §63.3881(d) to constitute compliance with this subpart for any or all of your metal parts coating operations, then you must include a statement to this effect in your initial notification, and no other notifications are required under this subpart in regard to those metal parts coating operations. If you are complying with another NESHAP that constitutes the predominant activity at your facility under §63.3881(e)(2) to constitute compliance with this subpart for your metal parts coating operations, then you must include a statement to this effect in your initial notification, and no other notifications are required under this subpart in regard to those metal parts coating operations.

(c) *Notification of compliance status.* You must submit the notification of compliance status required by §63.9(h) no later than 30 calendar days following the end of the initial compliance period described in §§63.3940, 63.3950, or 63.3960 that applies to your affected source. The notification of compliance status must contain the information specified in paragraphs (c)(1) through (11) of this section and in §63.9(h).

- (1) Company name and address.
- (2) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.
- (3) Date of the report and beginning and ending dates of the reporting period. The reporting period is the initial compliance period described in §§63.3940, 63.3950, or 63.3960 that applies to your affected source.
- (4) Identification of the compliance option or options specified in §63.3891 that you used on each coating operation in the affected source during the initial compliance period.
- (5) Statement of whether or not the affected source achieved the emission limitations for the initial compliance period.
- (6) If you had a deviation, include the information in paragraphs (c)(6)(i) and (ii) of this section.
  - (i) A description and statement of the cause of the deviation.
  - (ii) If you failed to meet the applicable emission limit in §63.3890, include all the calculations you used to determine the kg (lb) of organic HAP emitted per liter (gal) coating solids used. You do not need to submit information provided by the materials' suppliers or manufacturers, or test reports.
- (7) For each of the data items listed in paragraphs (c)(7)(i) through (iv) of this section that is required by the compliance option(s) you used to demonstrate compliance with the emission limit, include an example of how you determined the value, including calculations and supporting data. Supporting data may include a copy of the information provided by the supplier or manufacturer of the example coating or material, or a summary of the results of testing conducted according to §63.3941(a), (b), or (c). You do not need to submit copies of any test reports.
  - (i) Mass fraction of organic HAP for one coating, for one thinner and/or other additive, and for one cleaning material.
  - (ii) Volume fraction of coating solids for one coating.
  - (iii) Density for one coating, one thinner and/or other additive, and one leaning material, except that if you use the compliant material option, only the example coating density is required.
  - (iv) The amount of waste materials and the mass of organic HAP contained in the waste materials for which you are claiming an allowance in Equation 1 of §63.3951.
- (8) The calculation of kg (lb) of organic HAP emitted per liter (gal) coating solids used for the compliance option(s) you used, as specified in paragraphs (c)(8)(i) through (iii) of this section.
  - (i) For the compliant material option, provide an example calculation of the organic HAP content for one coating, using Equation 2 of §63.3941.

*§ 63.3920 What reports must I submit?*

- (a) *Semiannual compliance reports.* You must submit semiannual compliance reports for each affected source according to the requirements of paragraphs (a)(1) through (7) of this section. The semiannual compliance reporting requirements may be satisfied by reports required under other parts of the Clean Air Act (CAA), as specified in paragraph (a)(2) of this section.
  - (1) *Dates.* Unless the Administrator has approved or agreed to a different schedule for submission of reports under §63.10(a), you must prepare and submit each semiannual compliance report according to the dates specified in paragraphs (a)(1)(i) through (iv) of this section. Note that the information reported for each of the months in the reporting period will be based on the last 12 months of data prior to the date of each monthly calculation.
    - (i) The first semiannual compliance report must cover the first semiannual reporting period which begins the day after the end of the initial compliance period described in §63.3940, §63.3950, or §63.3960 that applies to your affected source and ends on June 30 or December 31, whichever date is the first date following the end of the initial compliance period.
    - (ii) Each subsequent semiannual compliance report must cover the subsequent semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.
    - (iii) Each semiannual compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.
    - (iv) For each affected source that is subject to permitting regulations pursuant to 40 CFR part 70 or 40 CFR part 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), you may submit the first and

subsequent compliance reports according to the dates the permitting authority has established instead of according to the date specified in paragraph (a)(1)(iii) of this section.

(2) *Inclusion with title V report.* Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 40 CFR part 71 must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a semiannual compliance report pursuant to this section along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the semiannual compliance report includes all required information concerning deviations from any emission limitation in this subpart, its submission will be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a semiannual compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permitting authority.

(3) *General requirements.* The semiannual compliance report must contain the information specified in paragraphs (a)(3)(i) through (vii) of this section, and the information specified in paragraphs (a)(4) through (7) and (c)(1) of this section that is applicable to your affected source.

(i) Company name and address.

(ii) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

(iii) Date of report and beginning and ending dates of the reporting period. The reporting period is the 6-month period ending on June 30 or December 31. Note that the information reported for each of the 6 months in the reporting period will be based on the last 12 months of data prior to the date of each monthly calculation.

(iv) Identification of the compliance option or options specified in §63.3891 that you used on each coating operation during the reporting period. If you switched between compliance options during the reporting period, you must report the beginning and ending dates for each option you used.

(4) *No deviations.* If there were no deviations from the emission limitations in §§63.3890, 63.3892, and 63.3893 that apply to you, the semiannual compliance report must include a statement that there were no deviations from the emission limitations during the reporting period. If you used the emission rate with add-on controls option and there were no periods during which the continuous parameter monitoring systems (CPMS) were out-of-control as specified in §63.8(c)(7), the semiannual compliance report must include a statement that there were no periods during which the CPMS were out-of-control during the reporting period.

(5) *Deviations: Compliant material option.* If you used the compliant material option and there was a deviation from the applicable organic HAP content requirements in §63.3890, the semiannual compliance report must contain the information in paragraphs (a)(5)(i) through (iv) of this section.

(i) Identification of each coating used that deviated from the applicable emission limit, and each thinner and/or other additive, and cleaning material used that contained organic HAP, and the dates and time periods each was used.

(ii) The calculation of the organic HAP content (using Equation 2 of §63.3941) for each coating identified in paragraph (a)(5)(i) of this section. You do not need to submit background data supporting this calculation (e.g., information provided by coating suppliers or manufacturers, or test reports).

(iii) The determination of mass fraction of organic HAP for each thinner and/or other additive, and cleaning material identified in paragraph (a)(5)(i) of this section. You do not need to submit background data supporting this calculation (e.g., information provided by material suppliers or manufacturers, or test reports).

(iv) A statement of the cause of each deviation.

#### § 63.3930 *What records must I keep?*

You must collect and keep records of the data and information specified in this section. Failure to collect and keep these records is a deviation from the applicable standard.

(a) A copy of each notification and report that you submitted to comply with this subpart, and the documentation supporting each notification and report. If you are using the predominant activity alternative under §63.3890(c), you must keep records of the data and calculations used to determine the predominant activity. If you are using the facility-specific emission limit alternative under §63.3890(c), you must keep records of the data used to calculate the facility-specific emission limit for

the initial compliance demonstration. You must also keep records of any data used in each annual predominant activity determination and in the calculation of the facility-specific emission limit for each 12-month compliance period included in the semi-annual compliance reports.

(b) A current copy of information provided by materials suppliers or manufacturers, such as manufacturer's formulation data, or test data used to determine the mass fraction of organic HAP and density for each coating, thinner and/or other additive, and cleaning material, and the volume fraction of coating solids for each coating. If you conducted testing to determine mass fraction of organic HAP, density, or volume fraction of coating solids, you must keep a copy of the complete test report. If you use information provided to you by the manufacturer or supplier of the material that was based on testing, you must keep the summary sheet of results provided to you by the manufacturer or supplier. You are not required to obtain the test report or other supporting documentation from the manufacturer or supplier.

(c) For each compliance period, the records specified in paragraphs (c)(1) through (4) of this section.

(1) A record of the coating operations on which you used each compliance option and the time periods (beginning and ending dates and times) for each option you used.

(2) For the compliant material option, a record of the calculation of the organic HAP content for each coating, using Equation 2 of §63.3941.

(d) A record of the name and volume of each coating, thinner and/or other additive, and cleaning material used during each compliance period. If you are using the compliant material option for all coatings at the source, you may maintain purchase records for each material used rather than a record of the volume used.

(e) A record of the mass fraction of organic HAP for each coating, thinner and/or other additive, and cleaning material used during each compliance period unless the material is tracked by weight.

(f) A record of the volume fraction of coating solids for each coating used during each compliance period.

(j) You must keep records of the date, time, and duration of each deviation.

*§ 63.3931 In what form and for how long must I keep my records?*

(a) Your records must be in a form suitable and readily available for expeditious review, according to §63.10(b)(1). Where appropriate, the records may be maintained as electronic spreadsheets or as a database.

(b) As specified in §63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record on-site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record according to §63.10(b)(1). You may keep the records off-site for the remaining 3 years.

**Compliance Requirements for the Compliant Material Option**

*§ 63.3940 By what date must I conduct the initial compliance demonstration?*

You must complete the initial compliance demonstration for the initial compliance period according to the requirements in §63.3941. The initial compliance period begins on the applicable compliance date specified in §63.3883 and ends on the last day of the 12th month following the compliance date. If the compliance date occurs on any day other than the first day of a month, then the initial compliance period extends through that month plus the next 12 months. The initial compliance demonstration includes the calculations according to §63.3941 and supporting documentation showing that during the initial compliance period, you used no coating with an organic HAP content that exceeded the applicable emission limit in §63.3890, and that you used no thinners and/or other additives, or cleaning materials that contained organic HAP as determined according to §63.3941(a).

*§ 63.3941 How do I demonstrate initial compliance with the emission limitations?*

You may use the compliant material option for any individual coating operation, for any group of coating operations in the affected source, or for all the coating operations in the affected source. You must use either the emission rate without add-on controls option or the emission rate with add-on controls option for any coating operation in the affected source for which you do not use this option.

To demonstrate initial compliance using the compliant material option, the coating operation or group of coating operations must use no coating with an organic HAP content that exceeds the applicable emission limits in §63.3890 and must use no thinner and/or other additive, or cleaning material that contains organic HAP as determined according to this section. Any coating operation for which you use the compliant material option is not required to meet the operating limits or work practice standards required in §§63.3892 and 63.3893, respectively. You must conduct a separate initial compliance demonstration for each general use, high performance, magnet wire, rubber-to-metal, and extreme performance fluoropolymer coating operation unless you are demonstrating compliance with a predominant activity or facility-specific emission limit as provided in §63.3890(c). If you are demonstrating compliance with a predominant activity or facility-specific emission limit as provided in §63.3890(c), you must demonstrate that all coating operations included in the predominant activity determination or calculation of the facility-specific emission limit comply with that limit. You must meet all the requirements of this section. Use the procedures in this section on each coating, thinner and/or other additive, and cleaning material in the condition it is in when it is received from its manufacturer or supplier and prior to any alteration. You do not need to redetermine the organic HAP content of coatings, thinners and/or other additives, and cleaning materials that are reclaimed on-site (or reclaimed off-site if you have documentation showing that you received back the exact same materials that were sent off-site) and reused in the coating operation for which you use the compliant material option, provided these materials in their condition as received were demonstrated to comply with the compliant material option.

(a) *Determine the mass fraction of organic HAP for each material used.* You must determine the mass fraction of organic HAP for each coating, thinner and/or other additive, and cleaning material used during the compliance period by using one of the options in paragraphs (a)(1) through (5) of this section.

(1) *Method 311 (appendix A to 40 CFR part 63).* You may use Method 311 for determining the mass fraction of organic HAP. Use the procedures specified in paragraphs (a)(1)(i) and (ii) of this section when performing a Method 311 test.

(i) Count each organic HAP that is measured to be present at 0.1 percent by mass or more for Occupational Safety and Health Administration (OSHA)-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and at 1.0 percent by mass or more for other compounds. For example, if toluene (not an OSHA carcinogen) is measured to be 0.5 percent of the material by mass, you do not have to count it. Express the mass fraction of each organic HAP you count as a value truncated to four places after the decimal point (e.g., 0.3791).

(ii) Calculate the total mass fraction of organic HAP in the test material by adding up the individual organic HAP mass fractions and truncating the result to three places after the decimal point (e.g., 0.763).

(2) *Method 24 (appendix A to 40 CFR part 60).* For coatings, you may use Method 24 to determine the mass fraction of nonaqueous volatile matter and use that value as a substitute for mass fraction of organic HAP. For reactive adhesives in which some of the HAP react to form solids and are not emitted to the atmosphere, you may use the alternative method contained in appendix A to subpart PPPP of this part, rather than Method 24. You may use the volatile fraction that is emitted, as measured by the alternative method in appendix A to subpart PPPP of this part, as a substitute for the mass fraction of organic HAP.

(3) *Alternative method.* You may use an alternative test method for determining the mass fraction of organic HAP once the Administrator has approved it. You must follow the procedure in §63.7(f) to submit an alternative test method for approval.

(4) *Information from the supplier or manufacturer of the material.* You may rely on information other than that generated by the test methods specified in paragraphs (a)(1) through (3) of this section, such as manufacturer's formulation data, if it represents each organic HAP that is present at 0.1 percent by mass or more for OSHA-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and at 1.0 percent by mass or more for other compounds. For example, if toluene (not an OSHA carcinogen) is 0.5 percent of the material by mass, you do not have to count it. For reactive adhesives in which some of the HAP react to form solids and are not emitted to the atmosphere, you may rely on manufacturer's data that expressly states the organic HAP or volatile matter mass fraction emitted. If there is a disagreement between such information and results of a test conducted according to

paragraphs (a)(1) through (3) of this section, then the test method results will take precedence unless, after consultation, you demonstrate to the satisfaction of the enforcement agency that the formulation data are correct.

(5) *Solvent blends.* Solvent blends may be listed as single components for some materials in data provided by manufacturers or suppliers. Solvent blends may contain organic HAP which must be counted toward the total organic HAP mass fraction of the materials. When test data and manufacturer's data for solvent blends are not available, you may use the default values for the mass fraction of organic HAP in these solvent blends listed in Table 3 or 4 to this subpart. If you use the tables, you must use the values in Table 3 for all solvent blends that match Table 3 entries according to the instructions for Table 3, and you may use Table 4 only if the solvent blends in the materials you use do not match any of the solvent blends in Table 3 and you know only whether the blend is aliphatic or aromatic. However, if the results of a Method 311 (appendix A to 40 CFR part 63) test indicate higher values than those listed on Table 3 or 4 to this subpart, the Method 311 results will take precedence unless, after consultation, you demonstrate to the satisfaction of the enforcement agency that the formulation data are correct.

(b) *Determine the volume fraction of coating solids for each coating.* You must determine the volume fraction of coating solids (liters (gal) of coating solids per liter (gal) of coating) for each coating used during the compliance period by a test, by information provided by the supplier or the manufacturer of the material, or by calculation, as specified in paragraphs (b)(1) through (4) of this section. If test results obtained according to paragraph (b)(1) of this section do not agree with the information obtained under paragraph (b)(3) or (4) of this section, the test results will take precedence unless, after consultation, you demonstrate to the satisfaction of the enforcement agency that the formulation data are correct.

(1) *ASTM Method D2697–86 (Reapproved 1998) or ASTM Method D6093–97 (Reapproved 2003).* You may use ASTM Method D2697–86 (Reapproved 1998), "Standard Test Method for Volume Nonvolatile Matter in Clear or Pigmented Coatings" (incorporated by reference, see §63.14), or ASTM Method D6093–97 (Reapproved 2003), "Standard Test Method for Percent Volume Nonvolatile Matter in Clear or Pigmented Coatings Using a Helium Gas Pycnometer" (incorporated by reference, see §63.14), to determine the volume fraction of coating solids for each coating. Divide the nonvolatile volume percent obtained with the methods by 100 to calculate volume fraction of coating solids.

(2) *Alternative method.* You may use an alternative test method for determining the solids content of each coating once the Administrator has approved it. You must follow the procedure in §63.7(f) to submit an alternative test method for approval.

(3) *Information from the supplier or manufacturer of the material.* You may obtain the volume fraction of coating solids for each coating from the supplier or manufacturer.

(4) *Calculation of volume fraction of coating solids.* You may determine the volume fraction of coating solids using Equation 1 of this section:

$$V_s = 1 - \frac{m_{\text{volatiles}}}{D_{\text{avg}}} \quad (\text{Eq. 1})$$

Where:

$V_s$  = Volume fraction of coating solids, liters (gal) coating solids per liter (gal) coating.

$m_{\text{volatiles}}$  = Total volatile matter content of the coating, including HAP, volatile organic compounds (VOC), water, and exempt compounds, determined according to Method 24 in appendix A of 40 CFR part 60, grams volatile matter per liter coating.

$D_{\text{avg}}$  = Average density of volatile matter in the coating, grams volatile matter per liter volatile matter, determined from test results using ASTM Method D1475–98, "Standard Test Method for Density of Liquid Coatings, Inks, and Related Products" (incorporated by reference, see §63.14), information from the supplier or manufacturer of the material, or reference sources providing density or specific gravity data for pure materials. If there is disagreement between ASTM Method D1475–98 test results and other information sources, the test results will take precedence unless, after consultation you demonstrate to the satisfaction of the enforcement agency that the formulation data are correct.

(c) *Determine the density of each coating.* Determine the density of each coating used during the compliance period from test results using ASTM Method D1475–98, "Standard Test Method for Density of Liquid Coatings, Inks, and Related Products" (incorporated by reference, see §63.14),

information from the supplier or manufacturer of the material, or specific gravity data for pure chemicals. If there is disagreement between ASTM Method D1475–98 test results and the supplier's or manufacturer's information, the test results will take precedence unless, after consultation you demonstrate to the satisfaction of the enforcement agency that the formulation data are correct.

(d) *Determine the organic HAP content of each coating.* Calculate the organic HAP content, kg (lb) of organic HAP emitted per liter (gal) coating solids used, of each coating used during the compliance period using Equation 2 of this section:

$$H_c = \frac{(D_c)(W_c)}{V_s} \quad (\text{Eq. 2})$$

Where:

$H_c$  = Organic HAP content of the coating, kg organic HAP emitted per liter (gal) coating solids used.  
 $D_c$  = Density of coating, kg coating per liter (gal) coating, determined according to paragraph (c) of this section.

$W_c$  = Mass fraction of organic HAP in the coating, kg organic HAP per kg coating, determined according to paragraph (a) of this section.

$V_s$  = Volume fraction of coating solids, liter (gal) coating solids per liter (gal) coating, determined according to paragraph (b) of this section.

(e) *Compliance demonstration.* The calculated organic HAP content for each coating used during the initial compliance period must be less than or equal to the applicable emission limit in §63.3890; and each thinner and/or other additive, and cleaning material used during the initial compliance period must contain no organic HAP, determined according to paragraph (a) of this section. You must keep all records required by §§63.3930 and 63.3931. As part of the notification of compliance status required in §63.3910, you must identify the coating operation(s) for which you used the compliant material option and submit a statement that the coating operation(s) was (were) in compliance with the emission limitations during the initial compliance period because you used no coatings for which the organic HAP content exceeded the applicable emission limit in §63.3890, and you used no thinners and/or other additives, or cleaning materials that contained organic HAP, determined according to the procedures in paragraph (a) of this section.

§ 63.3942 *How do I demonstrate continuous compliance with the emission limitations?*

(a) For each compliance period to demonstrate continuous compliance, you must use no coating for which the organic HAP content (determined using Equation 2 of §63.3941) exceeds the applicable emission limit in §63.3890, and use no thinner and/or other additive, or cleaning material that contains organic HAP, determined according to §63.3941(a). A compliance period consists of 12 months. Each month, after the end of the initial compliance period described in §63.3940, is the end of a compliance period consisting of that month and the preceding 11 months. If you are complying with a facility-specific emission limit under §63.3890(c), you must also perform the calculation using Equation 1 in §63.3890(c)(2) on a monthly basis using the data from the previous 12 months of operation.

(b) If you choose to comply with the emission limitations by using the compliant material option, the use of any coating, thinner and/or other additive, or cleaning material that does not meet the criteria specified in paragraph (a) of this section is a deviation from the emission limitations that must be reported as specified in §§63.3910(c)(6) and 63.3920(a)(5).

(c) As part of each semiannual compliance report required by §63.3920, you must identify the coating operation(s) for which you used the compliant material option. If there were no deviations from the applicable emission limit in §63.3890, submit a statement that the coating operation(s) was (were) in compliance with the emission limitations during the reporting period because you used no coatings for which the organic HAP content exceeded the applicable emission limit in §63.3890, and you used no thinner and/or other additive, or cleaning material that contained organic HAP, determined according to §63.3941(a).

(d) You must maintain records as specified in §§63.3930 and 63.3931.

## Other Requirements and Information

§ 63.3980 *Who implements and enforces this subpart?*

(a) This subpart can be implemented and enforced by us, the U.S. Environmental Protection Agency (EPA), or a delegated authority such as your State, local, or tribal agency. If the Administrator has delegated authority to your State, local, or tribal agency, then that agency (as well as the EPA) has the authority to implement and enforce this subpart. You should contact your EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under subpart E of this part, the authorities contained in paragraph (c) of this section are retained by the Administrator and are not transferred to the State, local, or tribal agency.

(c) The authorities that will not be delegated to State, local, or tribal agencies are listed in paragraphs (c)(1) through (4) of this section:

(1) Approval of alternatives to the requirements in §63.3881 through 3883 and §63.3890 through 3893.

(2) Approval of major alternatives to test methods under §63.7(e)(2)(ii) and (f) and as defined in §63.90.

(3) Approval of major alternatives to monitoring under §63.8(f) and as defined in §63.90.

(4) Approval of major alternatives to recordkeeping and reporting under §63.10(f) and as defined in §63.90.

§ 63.3981 *What definitions apply to this subpart?*

Terms used in this subpart are defined in the CAA, in 40 CFR 63.2, and in this section as follows:

*Additive* means a material that is added to a coating after purchase from a supplier (e.g., catalysts, activators, accelerators).

*Add-on control* means an air pollution control device, such as a thermal oxidizer or carbon adsorber, that reduces pollution in an air stream by destruction or removal before discharge to the atmosphere.

*Adhesive, adhesive coating* means any chemical substance that is applied for the purpose of bonding two surfaces together. Products used on humans and animals, adhesive tape, contact paper, or any other product with an adhesive incorporated onto or in an inert substrate shall not be considered adhesives under this subpart.

*Assembled on-road vehicle coating* means any coating operation in which coating is applied to the surface of some component or surface of a fully assembled motor vehicle or trailer intended for on-road use including, but not limited to, components or surfaces on automobiles and light-duty trucks that have been repaired after a collision or otherwise repainted, fleet delivery trucks, and motor homes and other recreational vehicles (including camping trailers and fifth wheels). Assembled on-road vehicle coating includes the concurrent coating of parts of the assembled on-road vehicle that are painted off-vehicle to protect systems, equipment, or to allow full coverage. Assembled on-road vehicle coating does not include surface coating operations that meet the applicability criteria of the automobiles and light-duty trucks NESHAP. Assembled on-road vehicle coating also does not include the use of adhesives, sealants, and caulks used in assembling on-road vehicles.

*Capture device* means a hood, enclosure, room, floor sweep, or other means of containing or collecting emissions and directing those emissions into an add-on air pollution control device.

*Capture efficiency or capture system efficiency* means the portion (expressed as a percentage) of the pollutants from an emission source that is delivered to an add-on control device.

*Capture system* means one or more capture devices intended to collect emissions generated by a coating operation in the use of coatings or cleaning materials, both at the point of application and at subsequent points where emissions from the coatings and cleaning materials occur, such as flashoff, drying, or curing. As used in this subpart, multiple capture devices that collect emissions generated by a coating operation are considered a single capture system.

*Cleaning material* means a solvent used to remove contaminants and other materials, such as dirt, grease, oil, and dried or wet coating (e.g., depainting or paint stripping), from a substrate before or after coating application or from equipment associated with a coating operation, such as spray booths, spray guns, racks, tanks, and hangers. Thus, it includes any cleaning material used on substrates or equipment or both.

*Coating* means a material applied to a substrate for decorative, protective, or functional purposes. Such materials include, but are not limited to, paints, sealants, liquid plastic coatings, caulks, inks, adhesives, and maskants. Decorative, protective, or functional materials that consist only of protective oils for metal, acids, bases, or any combination of these substances, or paper film or plastic film which may be pre-coated with an adhesive by the film manufacturer, are not considered coatings for the purposes of this subpart. A liquid plastic coating means a coating made from fine particle-size polyvinyl chloride (PVC) in solution (also referred to as a plastisol).

*Coating operation* means equipment used to apply cleaning materials to a substrate to prepare it for coating application (surface preparation) or to remove dried coating; to apply coating to a substrate (coating application) and to dry or cure the coating after application; or to clean coating operation equipment (equipment cleaning). A single coating operation may include any combination of these types of equipment, but always includes at least the point at which a given quantity of coating or cleaning material is applied to a given part and all subsequent points in the affected source where organic HAP are emitted from the specific quantity of coating or cleaning material on the specific part. There may be multiple coating operations in an affected source. Coating application with handheld, non-refillable aerosol containers, touch-up markers, or marking pens is not a coating operation for the purposes of this subpart.

*Coatings solids* means the nonvolatile portion of the coating that makes up the dry film.

*Continuous parameter monitoring system (CPMS)* means the total equipment that may be required to meet the data acquisition and availability requirements of this subpart, used to sample, condition (if applicable), analyze, and provide a record of coating operation, or capture system, or add-on control device parameters.

*Controlled coating operation* means a coating operation from which some or all of the organic HAP emissions are routed through an emission capture system and add-on control device.

*Deviation* means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

- (1) Fails to meet any requirement or obligation established by this subpart including but not limited to, any emission limit or operating limit or work practice standard;
- (2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or
- (3) Fails to meet any emission limit, or operating limit, or work practice standard in this subpart during startup, shutdown, or malfunction, regardless of whether or not such failure is permitted by this subpart.

*Emission limitation* means the aggregate of all requirements associated with a compliance option including emission limit, operating limit, work practice standard, etc.

*Enclosure* means a structure that surrounds a source of emissions and captures and directs the emissions to an add-on control device.

*Exempt compound* means a specific compound that is not considered a VOC due to negligible photochemical reactivity. The exempt compounds are listed in 40 CFR 51.100(s).

*Extreme performance fluoropolymer coating* means coatings that are formulated systems based on fluoropolymer resins which often contain bonding matrix polymers dissolved in non-aqueous solvents as well as other ingredients. Extreme performance fluoropolymer coatings are typically used when one or more critical performance criteria are required including, but not limited to a nonstick low-energy surface, dry film lubrication, high resistance to chemical attack, extremely wide operating temperature, high electrical insulating properties, or that the surface comply with government (e.g., USDA, FDA) or third party specifications for health, safety, reliability, or performance. Once applied to a substrate, extreme performance fluoropolymer coatings undergo a curing process that typically requires high temperatures, a chemical reaction, or other specialized technology.

*Facility maintenance* means the routine repair or renovation (including the surface coating) of the tools, equipment, machinery, and structures that comprise the infrastructure of the affected facility and that are necessary for the facility to function in its intended capacity.

*General use coating* means any material that meets the definition of coating but does not meet the definition of high performance coating, rubber-to-metal coating, magnet wire coating, or extreme performance fluoropolymer coating as defined in this section.

*High performance architectural coating* means any coating applied to architectural subsections which is required to meet the specifications of Architectural Aluminum Manufacturer's Association's publication number AAMA 605.2-2000.

*High performance coating* means any coating that meets the definition of high performance architectural coating or high temperature coating in this section.

*High temperature coating* means any coating applied to a substrate which during normal use must withstand temperatures of at least 538 degrees Celsius (1000 degrees Fahrenheit).

*Hobby shop* means any surface coating operation, located at an affected source, that is used exclusively for personal, noncommercial purposes by the affected source's employees or assigned personnel.

*Magnet wire coatings*, commonly referred to as magnet wire enamels, are applied to a continuous strand of wire which will be used to make turns (windings) in electrical devices such as coils, transformers, or motors. Magnet wire coatings provide high dielectric strength and turn-to-turn conductor insulation. This allows the turns of an electrical device to be placed in close proximity to one another which leads to increased coil effectiveness and electrical efficiency.

*Magnet wire coating machine* means equipment which applies and cures magnet wire coatings.

*Manufacturer's formulation data* means data on a material (such as a coating) that are supplied by the material manufacturer based on knowledge of the ingredients used to manufacture that material, rather than based on testing of the material with the test methods specified in §63.3941. Manufacturer's formulation data may include, but are not limited to, information on density, organic HAP content, volatile organic matter content, and coating solids content.

*Mass fraction of organic HAP* means the ratio of the mass of organic HAP to the mass of a material in which it is contained, expressed as kg of organic HAP per kg of material.

*Month* means a calendar month or a pre-specified period of 28 days to 35 days to allow for flexibility in recordkeeping when data are based on a business accounting period.

*Non-HAP coating* means, for the purposes of this subpart, a coating that contains no more than 0.1 percent by mass of any individual organic HAP that is an OSHA-defined carcinogen as specified in 29 CFR 1910.1200(d)(4) and no more than 1.0 percent by mass for any other individual HAP.

*Organic HAP content* means the mass of organic HAP emitted per volume of coating solids used for a coating calculated using Equation 2 of §63.3941. The organic HAP content is determined for the coating in the condition it is in when received from its manufacturer or supplier and does not account for any alteration after receipt. For reactive adhesives in which some of the HAP react to form solids and are not emitted to the atmosphere, organic HAP content is the mass of organic HAP that is emitted, rather than the organic HAP content of the coating as it is received.

*Permanent total enclosure (PTE)* means a permanently installed enclosure that meets the criteria of Method 204 of appendix M, 40 CFR part 51, for a PTE and that directs all the exhaust gases from the enclosure to an add-on control device.

*Personal watercraft* means a vessel (boat) which uses an inboard motor powering a water jet pump as its primary source of motive power and which is designed to be operated by a person or persons sitting, standing, or kneeling on the vessel, rather than in the conventional manner of sitting or standing inside the vessel.

*Protective oil* means an organic material that is applied to metal for the purpose of providing lubrication or protection from corrosion without forming a solid film. This definition of protective oil includes, but is not limited to, lubricating oils, evaporative oils (including those that evaporate completely), and extrusion oils. Protective oils used on miscellaneous metal parts and products include magnet wire lubricants and soft temporary protective coatings that are removed prior to installation or further assembly of a part or component.

*Reactive adhesive* means adhesive systems composed, in part, of volatile monomers that react during the adhesive curing reaction, and, as a result, do not evolve from the film during use. These volatile components instead become integral parts of the adhesive through chemical reaction. At least 70 percent of the liquid components of the system, excluding water, react during the process.

*Research or laboratory facility* means a facility whose primary purpose is for research and development of new processes and products, that is conducted under the close supervision of technically trained personnel, and is not engaged in the manufacture of final or intermediate products for commercial purposes, except in a *de minimis* manner.

*Responsible official* means responsible official as defined in 40 CFR 70.2.

*Rubber-to-metal coatings* are coatings that contain heat-activated polymer systems in either solvent or water that, when applied to metal substrates, dry to a non-tacky surface and react chemically with the rubber and metal during a vulcanization process.

*Startup, initial* means the first time equipment is brought online in a facility.

*Surface preparation* means use of a cleaning material on a portion of or all of a substrate. This includes use of a cleaning material to remove dried coating, which is sometimes called depainting.

*Temporary total enclosure* means an enclosure constructed for the purpose of measuring the capture efficiency of pollutants emitted from a given source as defined in Method 204 of appendix M, 40 CFR part 51.

*Thinner* means an organic solvent that is added to a coating after the coating is received from the supplier.

*Total volatile hydrocarbon (TVH)* means the total amount of nonaqueous volatile organic matter determined according to Methods 204 and 204A through 204F of appendix M to 40 CFR part 51 and substituting the term TVH each place in the methods where the term VOC is used. The TVH includes both VOC and non-VOC.

*Uncontrolled coating operation* means a coating operation from which none of the organic HAP emissions are routed through an emission capture system and add-on control device.

*Volatile organic compound (VOC)* means any compound defined as VOC in 40 CFR 51.100(s).

*Volume fraction of coating solids* means the ratio of the volume of coating solids (also known as the volume of nonvolatiles) to the volume of a coating in which it is contained; liters (gal) of coating solids per liter (gal) of coating.

*Wastewater* means water that is generated in a coating operation and is collected, stored, or treated prior to being discarded or discharged.

You must comply with the applicable General Provisions requirements according to the following table:

*Table 2 to Subpart M of Part 63—Applicability of General Provisions to Subpart M of Part 63*

Citation	Subject	Applicable to subpart M	Explanation
§ 63.1(a)(1)-(14)	General Applicability.	Yes.	
§ 63.1(b)(1)-(3)	Initial Applicability Determination.	Yes .....	Applicability to subpart M is also specified in §63.3881.
§ 63.1(c)(1)	Applicability After Standard Established.	Yes.	
§ 63.1(c)(2)-(3)	Applicability of Permit Program for Area Sources.	No.....	Area sources are not subject to subpart M.
§ 63.1(c)(4)-(5)	Extensions and Notifications.	Yes.	
§ 63.1(e)	Applicability of Permit Program Before Relevant Standard is Set.	Yes.	

*Table 2 to Subpart M of Part 63—Applicability of General Provisions to Subpart M of Part 63*

Citation	Subject	Applicable to subpart M	Explanation
§ 63.2	Definitions	Yes .....	Additional definitions are specified in §63.3981.
§ 63.1(a)-(c)	Units and Abbreviations.	Yes.	
§ 63.4(a)(1)-(5)	Prohibited Activities.	Yes.	
§ 63.4(b)-(c).	Circumvention/ Severability.	Yes.	
§ 63.5(a)	Construction/ Reconstruction.	Yes.	
§ 63.5(b)(1)-(6)	Requirements for Existing, Newly Constructed, and Reconstructed Sources.	Yes.	
§ 63.5(d)	Application for Approval of Construction/Reconstruction.	Yes.	
§ 63.5(e)	Approval of Construction/Reconstruction.	Yes.	
§ 63.5(f)	Approval of Construction/Reconstruction Based on Prior State Review.	Yes.	
§ 63.6(a)	Compliance With Standards and Maintenance Requirements -Applicability.	Yes.	
§ 63.6(b)(1)-(7).	Compliance Dates for New and Reconstructed Sources	Yes .....	Section 63.3883 specifies the compliance dates.
§ 63.6(c)(1)-(5)	Compliance Dates for Existing Sources.	Yes .....	Section 63.3883 specifies the compliance dates.
§ 63.6(e)(1)-(2)	Operation and Maintenance.	Yes.	
§ 63.6(e)(3)	Startup, Shutdown, and Malfunction Plan.	Yes .....	Only sources using an add-on control device to comply with the standard must complete startup, shutdown, and malfunction plans.

*Table 2 to Subpart M MMM of Part 63—Applicability of General Provisions to Subpart M MMM of Part 63*

Citation	Subject	Applicable to subpart M MMM	Explanation
§ 63.6(f)(1)	Compliance Except During Startup, Shutdown, and Malfunction.	Yes .....	Applies only to sources using an add-on control device to comply with the standard.
§ 63.6(f)(2)-(3).	Methods for Determining Compliance..	Yes.	
§ 63.6(g)(1)-(3)	Use of an Alternative Standard.	Yes	
§ 63.6(h)	Compliance With Opacity/Visible Emission Standards	No.....	Subpart M MMM does not establish opacity standards and does not require continuous opacity monitoring systems (COMS).
§ 63.6(i)(1)-(16)	Extension of Compliance.	Yes.	
§ 63.6(j)	Presidential Compliance Exemption.	Yes.	
§ 63.7(a)(1).	Performance Test Requirements - Applicability.	Yes .....	Applies to all affected sources. Additional requirements for performance testing are specified in §§ 63.3964, 63.3965, and 63.3966.
§ 63.7(a)(2)	Performance Test Requirements - Dates.	Yes .....	Applies only to performance tests for capture system and control device efficiency at sources using these to comply with the standard. Section 63.3960 specifies the schedule for performance test requirements that are earlier than those specified in §63.7(a)(2).
§ 63.7(a)(3).	Performance Tests Required By the Administrator.	Yes.	
§ 63.7(b)-(e)	Performance Test Requirements - Notification, Quality Assurance, Facilities Necessary for Safe Testing, Conditions During Test.	Yes .....	Applies only to performance tests for capture system and add-on control device efficiency at sources using these to comply with the standard.

*Table 2 to Subpart M MMM of Part 63—Applicability of General Provisions to Subpart M MMM of Part 63*

Citation	Subject	Applicable to subpart M MMM	Explanation
§ 63.7(f)	Performance Test Requirements - Use of Alternative Test Method. efficiency.	Yes .....	Applies to all test methods except those used to determine capture system
§ 63.7(g)-(h)	Performance Test Requirements - Data Analysis, Recordkeeping, Reporting, Waiver of Test.	Yes .....	Applies only to performance tests for capture system and add-on control device efficiency at sources using these to comply with the standard.
§ 63.8(a)(1)-(3)	Monitoring Requirements - Applicability.	Yes .....	Applies only to monitoring of capture system and add-on control device efficiency at sources using these to comply with the standard. Additional requirements for monitoring are specified in §63.3968.
§ 63.8(a)(4)	Additional Monitoring Requirements.	No.....	Subpart M MMM does not have monitoring requirements for flares.
§ 63.8(b)	Conduct of Monitoring.	Yes.	
§ 63.8(c)(1)-(3)	Continuous Monitoring Systems (CMS) Operation and Maintenance.	Yes .....	Applies only to monitoring of capture system and add-on control device efficiency at sources using these to comply with the standard. Additional requirements for CMS operations and maintenance are specified in §63.3968.
§ 63.8(c)(4).	CMS	No.....	§ 63.3968 specifies the requirements for the operation of CMS for capture systems and add-on control devices at sources using these to comply.
§ 63.8(c)(5)	COMS	No.....	Subpart M MMM does not have opacity or visible emission standards.
§ 63.8(c)(6).	CMS Requirements	No.....	Section 63.3968 specifies the requirements for monitoring systems for capture systems and add-on control devices at sources using these to comply.

*Table 2 to Subpart M MMM of Part 63—Applicability of General Provisions to Subpart M MMM of Part 63*

Citation	Subject	Applicable to subpart M MMM	Explanation
§ 63.8(c)(7)	CMS Out-of-Control Periods.	Yes.	
§ 63.8(c)(8).	CMS Out-of-Control Periods and Reporting.	No.....	§ 63.3920 requires reporting of CMS out-of-control periods.
§ 63.8(d)-(e)	Quality Control Program and CMS Performance Evaluation.	No.....	Subpart M MMM does not require the use of continuous emissions monitoring systems.
§ 63.8(f)(1)-(5)	Use of an Alternative Monitoring Method.	Yes.	
§ 63.8(f)(6)	Alternative to Relative Accuracy Test.	No.....	Subpart M MMM does not require the use of continuous emissions monitoring systems.
§ 63.8(g)(1)-(5)	Data Reduction.	No.....	Sections 63.3967 and 63.3968 specify monitoring data reduction.
§ 63.9(a)-(d).	Notification Requirements.	Yes.	
§ 63.9(e)	Notification of Performance Test.	Yes .....	Applies only to capture system and add-on control device performance tests at sources using these to comply with the standard.
§ 63.9(f).	Notification of Visible Emissions/Opacity Test.	No.....	Subpart M MMM does not have opacity or visible emissions standards.
§ 63.9(g)(1)-(3)	Additional Notifications When Using CMS	No.....	Subpart M MMM does not require the use of continuous emissions monitoring systems.
§ 63.9(h).	Notification of Compliance Status.	Yes .....	Section 63.3910 specifies the dates for submitting the notification of compliance status.
§ 63.9(i).	Adjustment of Submittal Deadlines.	Yes.	
§ 63.9(j).	Change in Previous Information.	Yes.	

*Table 2 to Subpart M MMM of Part 63—Applicability of General Provisions to Subpart M MMM of Part 63*

Citation	Subject	Applicable to subpart M MMM	Explanation
§ 63.10(a).	Recordkeeping/ Reporting Applicability and General Information.	Yes.	
§ 63.10(b)(1).	General Recordkeeping Requirements.	Yes.....	Additional requirements are specified in §§ 63.3930 and 63.3931.
§ 63.10(b)(2) (i)-(v)	Recordkeeping Relevant to Startup, Shutdown, and Malfunction Periods and CMS.	Yes.....	Requirements for startup, shutdown, and malfunction records only apply to add-on control devices used to comply with the standard.
§ 63.10(b)(2) (vi)-(xi)	...	Yes.	
§ 63.10(b)(2) (xii)	Records	Yes.	
§ 63.10(b)(2) (xiii)	...	No.....	Subpart M MMM does not require the use of continuous emissions monitoring systems.
§ 63.10(b)(2) (xiv)	...	Yes.	
§ 63.10(b)(3).	Recordkeeping Requirements for Applicability Determinations.	Yes.	
§ 63.10(c) (1)-(6)	Additional Recordkeeping Requirements for Sources with CMS.	Yes.	
§ 63.10(c) (7)-(8).	...	No.....	The same records are required in §63.3920(a)(7).
§ 63.10(c) (9)-(15)	....	Yes.	
§ 63.10(d)(1)	General Reporting Requirements.	Yes.....	Additional requirements are specified in §63.3920.
§ 63.10(d)(2)	Report of Performance Test Results.	Yes.....	Additional requirements are specified in §63.3920(b).

*Table 2 to Subpart M MMM of Part 63—Applicability of General Provisions to Subpart M MMM of Part 63*

Citation	Subject	Applicable to subpart M MMM	Explanation
§ 63.10(d)(3)	Reporting Opacity or Visible Emissions Observations.	No.....	Subpart M MMM does not require opacity or visible emissions observations.
§ 63.10(d)(4)..	Progress Reports for Sources With Compliance Extensions.	Yes.	
§ 63.10(d)(5).	Startup, Shutdown, and Malfunction Reports.	Yes.....	Applies only to add-on control devices at sources using these to comply with the standard.
§ 63.10(e) (1)-(2)	Additional CMS Reports	No.....	Subpart M MMM does not continuous emissions monitoring systems.
§ 63.10(e) (3).	Excess Emissions/CMS Performance Reports.	No.....	Section 63.3920 (b) specifies the contents of periodic compliance reports.
§ 63.10(e) (4).	COMS Data Reports	No.....	Subpart M MMM does not specify requirements for opacity or COMS.
§ 63.10(f).	Recordkeeping/ Reporting Waiver.	Yes.	
§ 63.11.	Control Device Requirements/Flares.	No.....	Subpart M MMM does not specify use of flares for compliance.
§ 63.12	State Authority and Delegations.	Yes.	
§ 63.13..	Addresses	Yes.	
§ 63.14..	Incorporation by Reference.	Yes.	
§ 63.15..	Availability of Information/ Confidentiality.	Yes.	

You may use the mass fraction values in the following table for solvent blends for which you do not have test data or manufacturer's formulation data and which match either the solvent blend name or the chemical abstract series (CAS) number. If a solvent blend matches both the name and CAS number for an

entry, that entry's organic HAP mass fraction must be used for that solvent blend. Otherwise, use the organic HAP mass fraction for the entry matching either the solvent blend name or CAS number, or use the organic HAP mass fraction from table 4 to this subpart if neither the name or CAS number match.

*Table 3 to Subpart M M M M of Part 63—Default Organic HAP Mass Fraction for Solvents and Solvent Blends*

Solvent/solvent blend	CAS. No.	Average organic HAP mass fraction	Typical organic HAP, percent by mass
1. Toluene .....	108-88-3	1.0	Toluene.
2. Xylene(s) .....	1330-20-7	1.0	Xylenes, ethylbenzene.
3. Hexane .....	110-54-3	0.5	n-hexane.
4. n-Hexane .....	110-54-3	1.0	n-hexane.
5. Ethylbenzene .....	100-41-4	1.0	Ethylbenzene.
6. Aliphatic 140 .....	.....	0	None.
7. Aromatic 100 .....	.....	0.02	1% xylene, 1% cumene.
8. Aromatic 150 .....	.....	0.09	Naphthalene.
9. Aromatic naphtha .....	64742-95-6	0.02	1% xylene, 1% cumene.
10. Aromatic solvent .....	64742-94-5	0.1	Naphthalene.
11. Exempt mineral spirits .....	8032-32-4	0	None.
12. Ligroines (VM & P) .....	8032-32-4	0	None.
13. Lactol spirits .....	64742-89-6	0.15	Toluene.
14. Low aromatic white spirit ...	64742-82-1	0	None.
15. Mineral spirits .....	64742-88-7	0.01	Xylenes.
16. Hydrotreated naphtha .....	64742-48-9	0	None.
17. Hydrotreated light distillate.	64742-47-8	0.001	Toluene.
18. Stoddard solvent .....	8052-41-3	0.01	Xylenes.
19. Super high-flash naphtha ..	64742-95-6	0.05	Xylenes.
20. Varsol ® solvent .....	8052-49-3	0.01	0.5% xylenes, 0.5% ethylbenzene.
21. VM & P naphtha .....	64742-89-8	0.06	3% toluene, 3% xylene.
22. Petroleum distillate mixture	68477-31-6	0.08	4% naphthalene, 4% biphenyl.

You may use the mass fraction values in the following table for solvent blends for which you do not have test data or manufacturer's formulation data.

*Table 4 to Subpart M M M M of Part 63—Default Organic HAP Mass Fraction for Petroleum Solvent Groups<sup>a</sup>*

Solvent type	Average organic HAP mass fraction	Typical organic HAP, percent by mass
Aliphatic <sup>b</sup>	0.03	1% Xylene, 1% Toluene, and 1% Ethylbenzene.
Aromatic <sup>c</sup>	0.06	4% Xylene, 1% Toluene, and 1% Ethylbenzene

a Use this table only if the solvent blend does not match any of the solvent blends in Table 3 to this subpart by either solvent blend name or CAS number and you only know whether the blend is aliphatic or aromatic.

b Mineral Spirits 135, Mineral Spirits 150 EC, Naphtha, Mixed Hydrocarbon, Aliphatic Hydrocarbon, Aliphatic Naphtha, Naphthol Spirits, Petroleum Spirits, Petroleum Oil, Petroleum Naphtha, Solvent Naphtha, Solvent Blend.

- c Medium-flash Naphtha, High-flash Naphtha, Aromatic Naphtha, Light Aromatic Naphtha, Light Aromatic Hydrocarbons, Aromatic Hydrocarbons, Light Aromatic Solvent.

D.5.12 One Time Deadlines Relating to NESHAP Subpart MMMM

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The Permittee shall comply with the following requirements by the dates listed:

Requirement	Rule Cite	Deadline
Initial Notification	40 CFR 63.3910	January 2, 2005
Notification of Compliance Status	40 CFR 63.3910	January 31, 2008

## SECTION D.6

## FACILITY OPERATION CONDITIONS

### Facility Description [326 IAC 2-7-5(15)]: Insignificant Activities

Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4,000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations. [326 IAC 6-3-2]

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

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

#### D.6.1 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emission rate from the insignificant grinding and machining shall be limited as follows:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

### Compliance Determination Requirements

#### D.6.2 Particulate Control [326 IAC 2-7-6(6)]

In order to comply with Condition D.6.1, the control equipment for particulate control shall be in operation and control emissions from each grinding and machining process at all times that the grinding and machining process is in operation.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY**

**PART 70 OPERATING PERMIT  
CERTIFICATION**

Source Name: Caterpillar, Inc.  
Source Address: 3701 State Road 26 East, Lafayette, IN 47905  
Mailing Address: 3701 State Road 26 East, Lafayette, IN 47905  
Part 70 Permit No.: T 157-18082-00044

**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:

- Annual Compliance Certification Letter
- Test Result (specify) \_\_\_\_\_
- Report (specify) \_\_\_\_\_
- Notification (specify) \_\_\_\_\_
- Affidavit (specify) \_\_\_\_\_
- 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:

Phone:

Date:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE BRANCH  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251  
Phone: 317-233-0178  
Fax: 317-233-6865**

**PART 70 OPERATING PERMIT  
EMERGENCY OCCURRENCE REPORT**

Source Name: Caterpillar, Inc.  
Source Address: 3701 State Road 26 East, Lafayette, IN 47905  
Mailing Address: 3701 State Road 26 East, Lafayette, IN 47905  
Part 70 Permit No.: T 157-18082-00044

**This form consists of 2 pages**

**Page 1 of 2**

<input type="checkbox"/> This is an emergency as defined in 326 IAC 2-7-1(12) C The Permittee must notify the Office of Air Quality (OAQ), within four (4) business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and C The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-7-16.
--

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:
Describe the cause of the Emergency:

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

**Page 2 of 2**

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency?    Y    N Describe:
Type of Pollutants Emitted: TSP, PM-10, SO <sub>2</sub> , VOC, NO <sub>x</sub> , CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
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: \_\_\_\_\_

A certification is not required for this report.

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

**PART 70 OPERATING PERMIT  
SEMI-ANNUAL NATURAL GAS-FIRED BOILER CERTIFICATION**

Source Name: Caterpillar, Inc.  
Source Address: 3701 State Road 26 East, Lafayette, IN 47905  
Mailing Address: 3701 State Road 26 East, Lafayette, IN 47905  
Part 70 Permit No.: T 157-18082-00044

<input type="checkbox"/> Natural Gas Only <input type="checkbox"/> Alternate Fuel burned
From _____ To: _____

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:
Phone:
Date:

A certification by the responsible official as defined by 326 IAC 2-7-1(34) is required for this report.

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

**Part 70 Quarterly Report**

Source Name: Caterpillar, Inc.  
Source Address: 3701 State Road 26 East, Lafayette, IN 47905  
Mailing Address: 3701 State Road 26 East, Lafayette, IN 47905  
Part 70 Permit No.: T 157-18082-00044  
Facilities: Three (3) boilers, identified as BY24010, BY24011, and BY24012  
Parameter: No. 2 Fuel Oil Usage  
Limit: Less than 11,917,000 gallons per twelve (12) consecutive month period with compliance determined at the end of each month. (Section D.1)

YEAR: \_\_\_\_\_

Month	No. 2 Fuel Oil Usage (gallons)	No. 2 Fuel Oil Usage (gallons)	No. 2 Fuel Oil Usage (gallons)
	This Month	Previous 11 Months	12 Month Total

- No deviation occurred in this month.
- Deviation/s occurred in this month.  
Deviation has been reported on: \_\_\_\_\_

Submitted by: \_\_\_\_\_  
Title/Position: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Date: \_\_\_\_\_  
Phone: \_\_\_\_\_

Attach a signed certification to complete this report.

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

**Part 70 Quarterly Report**

Source Name: Caterpillar, Inc.  
 Source Address: 3701 State Road 26 East, Lafayette, IN 47905  
 Mailing Address: 3701 State Road 26 East, Lafayette, IN 47905  
 Part 70 Permit No.: T 157-18082-00044  
 Facilities: Twenty-one (21) engine test cells, identified as M501 - M520 and M522, and two (2) packaging test cells, identified as M525 and M526  
 Parameter: Equivalent diesel throughput  
 (Diesel fuel throughput (gallons) + (natural gas usage (mmcf) x 8,650 gal/mmcf))  
 Limit: 2,400,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. (Section D.2)

YEAR: \_\_\_\_\_

Month	Equivalent Diesel Throughput (gallons)	Equivalent Diesel Throughput (gallons)	Equivalent Diesel Throughput (gallons)
	This Month	Previous 11 Months	12 Month Total

- No deviation occurred in this month.
- Deviation/s occurred in this month.  
 Deviation has been reported on: \_\_\_\_\_

Submitted by: \_\_\_\_\_  
 Title/Position: \_\_\_\_\_  
 Signature: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Phone: \_\_\_\_\_

Attach a signed certification to complete this report.

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

**Part 70 Quarterly Report**

Source Name: Caterpillar, Inc.  
 Source Address: 3701 State Road 26 East, Lafayette, Indiana 47905  
 Mailing Address: 3701 State Road 26 East, Lafayette, IN 47905  
 Part 70 Permit No.: T 157-18082-00044  
 Facility: One (1) power module (M547)  
 Parameter: Equivalent diesel input  
 (Diesel fuel input (gallons) + (natural gas usage (mmcf) x 1,140 gal/mmcf))  
 Limit: 166,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. (Section D.3)

YEAR: \_\_\_\_\_

Month	Equivalent Diesel Input (gallons)	Equivalent Diesel Input (gallons)	Equivalent Diesel Input (gallons)
	This Month	Previous 11 Months	12 Month Total

- No deviation occurred in this month.
- Deviation/s occurred in this month.  
 Deviation has been reported on: \_\_\_\_\_

Submitted by: \_\_\_\_\_  
 Title/Position: \_\_\_\_\_  
 Signature: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Phone: \_\_\_\_\_

Attach a signed certification to complete this report.

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

**Part 70 Quarterly Report**

Source Name: Caterpillar, Inc.  
 Source Address: 3701 State Road 26 East, Lafayette, Indiana 47905  
 Mailing Address: 3701 State Road 26 East, Lafayette, IN 47905  
 Part 70 Permit No.: T 157-18082-00044  
 Facility: One (1) power module (M547)  
 Parameter: Equivalent natural gas usage  
 (natural gas usage (mmcf) + (diesel fuel usage (gallons) x 0.051 mmcf/gal))  
 Limit: 76.1 million cubic feet (mmcf) per twelve (12) consecutive month period, with  
 compliance determined at the end of each month. (Section D.3)

YEAR: \_\_\_\_\_

Month	Equivalent Natural Gas Usage (mmcf)	Equivalent Natural Gas Usage (mmcf)	Equivalent Natural Gas Usage (mmcf)
	This Month	Previous 11 Months	12 Month Total

- No deviation occurred in this month.
- Deviation/s occurred in this month.  
 Deviation has been reported on: \_\_\_\_\_

Submitted by: \_\_\_\_\_  
 Title/Position: \_\_\_\_\_  
 Signature: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Phone: \_\_\_\_\_

Attach a signed certification to complete this report.

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

**Part 70 Quarterly Report**

Source Name: Caterpillar, Inc.  
 Source Address: 3701 State Road 26 East, Lafayette, Indiana 47905  
 Mailing Address: 3701 State Road 26 East, Lafayette, IN 47905  
 Part 70 Permit No.: T 157-18082-00044  
 Facility: One (1) dual fuel 3600 test stand (M523)  
 Parameter: Equivalent diesel input  
 (Diesel fuel input (gallons) + (natural gas usage (mmcf) x 640 gal/mmcf))  
 Limit: 166,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. (Section D.3)

YEAR: \_\_\_\_\_

Month	Equivalent Diesel Input (gallons)	Equivalent Diesel Input (gallons)	Equivalent Diesel Input (gallons)
	This Month	Previous 11 Months	12 Month Total

- No deviation occurred in this month.
- Deviation/s occurred in this month.  
 Deviation has been reported on: \_\_\_\_\_

Submitted by: \_\_\_\_\_  
 Title/Position: \_\_\_\_\_  
 Signature: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Phone: \_\_\_\_\_

Attach a signed certification to complete this report.

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

**Part 70 Quarterly Report**

Source Name: Caterpillar, Inc.  
 Source Address: 3701 State Road 26 East, Lafayette, Indiana 47905  
 Mailing Address: 3701 State Road 26 East, Lafayette, IN 47905  
 Part 70 Permit No.: T 157-18082-00044  
 Facility: One (1) ABV Rock Test site (M528)  
 Parameter: Equivalent diesel input  
 (Diesel fuel input (gallons) + (natural gas usage (mmcf) x 5,970 gal/mmcf))  
 Limit: 166,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. (Section D.3)

YEAR: \_\_\_\_\_

Month	Equivalent Diesel Input (gallons)	Equivalent Diesel Input (gallons)	Equivalent Diesel Input (gallons)
	This Month	Previous 11 Months	12 Month Total

- No deviation occurred in this month.
- Deviation/s occurred in this month.  
 Deviation has been reported on: \_\_\_\_\_

Submitted by: \_\_\_\_\_  
 Title/Position: \_\_\_\_\_  
 Signature: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Phone: \_\_\_\_\_

Attach a signed certification to complete this report.

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

**Part 70 Quarterly Report**

Source Name: Caterpillar, Inc.  
Source Address: 3701 State Road 26 East, Lafayette, Indiana 47905  
Mailing Address: 3701 State Road 26 East, Lafayette, IN 47905  
Part 70 Permit No.: T 157-18082-00044  
Facilities: Five (5) peak shaving diesel generators  
Parameter: Diesel input  
Limit: 166,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. (Section D.4)

YEAR: \_\_\_\_\_

Month	Diesel Input (gallons)	Diesel Input (gallons)	Diesel Input (gallons)
	This Month	Previous 11 Months	12 Month Total

- No deviation occurred in this month.
- Deviation/s occurred in this month.  
Deviation has been reported on: \_\_\_\_\_

Submitted by: \_\_\_\_\_

Title/Position: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Phone: \_\_\_\_\_

Attach a signed certification to complete this report.

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

**Part 70 Quarterly Report**

Source Name: Caterpillar, Inc.  
Source Address: 3701 State Road 26 East, Lafayette, Indiana 47905  
Mailing Address: 3701 State Road 26 East, Lafayette, IN 47905  
Part 70 Permit No.: T 157-18082-00044  
Facilities: Six (6) trailer mounted generator sets  
Parameter: Diesel input  
Limit: 114,412.87 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. (Section D.4)

YEAR: \_\_\_\_\_

Month	Diesel Input (gallons)	Diesel Input (gallons)	Diesel Input (gallons)
	This Month	Previous 11 Months	12 Month Total

- No deviation occurred in this month.
- Deviation/s occurred in this month.  
Deviation has been reported on: \_\_\_\_\_

Submitted by: \_\_\_\_\_

Title/Position: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Phone: \_\_\_\_\_

Attach a signed certification to complete this report.

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

**Part 70 Quarterly Report**

Source Name: Caterpillar, Inc.  
Source Address: 3701 State Road 26 East, Lafayette, Indiana 47905  
Mailing Address: 3701 State Road 26 East, Lafayette, IN 47905  
Part 70 Permit No.: T 157-18082-00044  
Facilities: Three (3) product paint booths (M751, M775 and M771)  
Parameter: VOC Usage  
Limit: 249 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. (Section D.5)

YEAR: \_\_\_\_\_

Month	VOC Usage (tons)	VOC Usage (tons)	VOC Usage (tons)
	This Month	Previous 11 Months	12 Month Total

- No deviation occurred in this month.
- Deviation/s occurred in this month.  
Deviation has been reported on: \_\_\_\_\_

Submitted by: \_\_\_\_\_

Title/Position: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Phone: \_\_\_\_\_

Attach a signed certification to complete this report.

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

**PART 70 OPERATING PERMIT  
 QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT**

Source Name: Caterpillar, Inc.  
 Source Address: 3701 State Road 26 East, Lafayette, Indiana 47905  
 Mailing Address: 3701 State Road 26 East, Lafayette, IN 47905  
 Part 70 Permit No.: T 157-18082-00044

**Months:** \_\_\_\_\_ **to** \_\_\_\_\_ **Year:** \_\_\_\_\_

<p>This report shall be submitted quarterly based on a calendar year. Any deviation from the requirements, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".</p>	
<input type="checkbox"/> NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.	
<input type="checkbox"/> THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD	
<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	
<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	

<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	
<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	
<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	

Form Completed By: \_\_\_\_\_

Title/Position: \_\_\_\_\_

Date: \_\_\_\_\_

Phone: \_\_\_\_\_

Attach a signed certification to complete this report.

Indiana Department of Environmental Management  
Office of Air Quality

Technical Support Document (TSD) for a New Source Construction,  
Prevention of Significant Deterioration (PSD),  
and Part 70 Permit Renewal

Source Description and Location
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Source Name:	Caterpillar, Inc.
Source Location:	3701 State Road 26 East, Lafayette, IN 47905
County:	Tippecanoe
SIC Code:	3519
Operation Permit No.:	T 157-7594-00044
Operation Permit Issuance Date:	July 13, 1999
Operation Permit Renewal No.:	T 157-18082-00044
Permit Reviewer:	CarrieAnn Paukowits

Existing Approvals
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The source was issued a Part 70 Operating Permit T 157-7594-00044 on July 13, 1999. The source has since received the following approvals:

- (a) First Administrative Amendment 157-11363-00044, issued on October 25, 1999;
- (b) First Significant Source Modification 157-11970-00044, issued on May 15, 2000;
- (c) Second Administrative Amendment 157-11889-00044, issued on May 22, 2000;
- (d) Third Administrative Amendment 157-12447-00044, issued on August 4, 2000;
- (e) Second Significant Source Modification 157-12768-00044, issued on January 4, 2001;
- (f) Fourth Administrative Amendment 157-12859-00044, issued on January 5, 2001;
- (g) First Minor Source Modification 157-14260-00044, issued on May 25, 2001;
- (h) First Minor Permit Modification 157-14388-00044, issued on July 13, 2001;
- (i) Second Minor Permit Modification 157-14386-00044, issued on July 17, 2001;
- (j) First Re-opening 157-13495-00044, issued on January 7, 2002; and
- (k) Fifth Administrative Amendment 157-19427-00044, issued on September 23, 2004.

All of the conditions from these prior approvals have been incorporated into the renewal except for the following:

- (a) Condition D.2.1 of T 157-7594-00044, issued on July 13, 1999: The input of diesel fuel to the twenty-one (21) engine test cells shall be limited to 1,062 kilogallons per twelve (12) consecutive months. For the purposes of this NO<sub>x</sub> limit, one (1) million cubic feet natural gas usage by the twenty (20) engine test cells (M501-M520) is equivalent to 6.81 kilogallons of diesel fuel at the test cells, and one (1) million cubic feet of natural gas usage at the one (1) engine test cell (M522) is equivalent to 0.640 kilogallons of diesel fuel at the test cells. This usage limit is required to limit the potential to emit of NO<sub>x</sub> to less than 250 tons per year. As a result

of this limit, CO and VOC emissions will be limited to less than 250 tons per year. Compliance with this limit makes 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 not applicable.

- (b) The input of diesel fuel to the one (1) packaging test cell shall be limited to 166 kilogallons per twelve (12) consecutive months. For the purposes of this NO<sub>x</sub> limit, one (1) million cubic feet of natural gas usage shall be equivalent to 0.640 kilogallons of diesel fuel usage. This usage limit is required to limit the potential to emit of NO<sub>x</sub> to less than 40 tons per year. Compliance with this limit makes 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 not applicable.

Reason not incorporated: The Office of Air Quality (OAQ) has reviewed a modification application, submitted by Caterpillar, Inc. on March 9, 2006, relating to an increase in the limited potential to emit from the twenty (20) 3500 engine test cells, identified as M501 through M520, and one (1) 3600 engine test cell, identified as M522, all constructed in 1979. On August 17, 2006, the applicant requested a relaxation in the potential to emit of the one (1) packaging test cell, identified as M525, constructed in 1988, and inclusion of that unit in the new limit for the twenty (20) 3500 engine test cells, identified as M501 through M520, and one (1) 3600 engine test cell, identified as M522, along with one (1) proposed packaging test cell, identified as M526. The applicant projects that it may need to exceed the fuel use limits in early 2007. Thus, a new limit is proposed. Based upon the proposed limit, the modification is major for NO<sub>x</sub> pursuant to 326 IAC 2-2, PSD, and PSD review is required. The PSD review has been combined into this Part 70 Operating Permit renewal.

- (c) Condition D.2.1 of T 157-7594-00044, issued on July 13, 1999: Pursuant to 326 IAC 7-1.1 (SO<sub>2</sub> Emissions Limitations) the SO<sub>2</sub> emissions from the twenty-one (21) engine test cells shall not exceed five tenths (0.5) pound per million British thermal unit heat input.

Reason not incorporated: The potential to emit SO<sub>2</sub> from each of the twenty (20) 3500 engine test cells and from the one (1) 3600 engine test cell is less than ten (10) pounds per hour and twenty-five (25) tons per year. Therefore, the requirements of 326 IAC 7-1.1 are not applicable. The limitation was previously included in the permit due the total potential to emit of the twenty-one (21) engine test cells. However, because they are separate facilities, the applicability of 326 IAC 7-1.1 should be based on the potential to emit from each test cell.

- (d) Condition D.7.1 of T 157-7594-00044, issued on July 13, 1999: The PM from the three (3) product paint booths (M751, M775 and W-3 (now M771)) shall not exceed the pound per hour emission rate established as E in the following formula:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

Reason not incorporated: The 326 IAC 6-3 revisions that became effective on June 12, 2002, were approved into the State Implementation Plan on September 23, 2005. This rule replaces the previous version of 326 IAC 6-3 (Process Operations) that had been part of the SIP; therefore, the requirements of the previous version of 326 IAC 6-3-2 are no longer applicable to this source. The facilities at this source are subject to the requirements of the new version of the rule, and those requirements are incorporated into this permit. See "326 IAC 6-3-2" under the *State Rule Applicability - Individual Facilities* section of this document.

- (e) Condition D.8.1 of T 157-7594-00044, issued on July 13, 1999: Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the insignificant activities of

brazing, cutting, soldering, and welding, the grinding and machining operations, and the one (1) maintenance paint booth shall not exceed allowable PM emission rate based on the following equation:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour.}$$

Reason revised: The 326 IAC 6-3 revisions that became effective on June 12, 2002, were approved into the State Implementation Plan on September 23, 2005. This rule replaces the previous version of 326 IAC 6-3 (Process Operations) that had been part of the SIP; therefore, the requirements of the previous version of 326 IAC 6-3-2 are no longer applicable to this source. The facilities at this source are subject to the requirements of the new version of the rule, and those requirements are incorporated into this permit. See "326 IAC 6-3-2" under the *State Rule Applicability - Individual Facilities* section of this document. The grinding and machining operations are still subject to the requirements of 326 IAC 6-3-2. However, the welding, brazing, cutting, and soldering are exempt from 326 IAC 6-3. The maintenance paint booth is a trivial activity and is not listed in the permit.

- (f) Condition D.1.1 of T 157-7594-00044, issued on July 13, 1999: Pursuant to PC (79) 1414, issued on July 25, 1979, the sulfur content of the fuel oil for the three (3) boilers shall not exceed 0.29% unless the actual steam rate is such that the combination of steam rate and a higher sulfur content will result in an annual emission of less than 246 tons per twelve (12) consecutive month period of sulfur dioxide, with compliance determined at the end of each month. Pursuant to OP 79-04-91-0408, OP 79-04-91-0409, and OP 79-04-91-0410, issued on October 27, 1987, the maximum combined flow rate of steam from the three (3) boilers shall not exceed 140,000 pounds per hour. Compliance with these limits makes 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 not applicable.

Reason revised: The potential to emit SO<sub>2</sub> from the three (3) boilers is still limited less than 246 tons per year. However, the limit has been changed to a fuel usage limitation to facilitate compliance determination.

County Attainment Status
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The source is located in Tippecanoe County.

Pollutant	Status
PM <sub>10</sub>	attainment
PM <sub>2.5</sub>	attainment
SO <sub>2</sub>	attainment
NO <sub>2</sub>	attainment
8-hour Ozone	attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) and nitrogen oxides (NO<sub>x</sub>) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality

Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to ozone. Tippecanoe County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

- (b) Tippecanoe County has been classified as attainment for PM<sub>2.5</sub>. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM<sub>2.5</sub> emissions. Therefore, until the U.S. EPA adopts specific provisions for PSD review for PM<sub>2.5</sub> emissions, it has directed states to regulate PM<sub>10</sub> emissions as a surrogate for PM<sub>2.5</sub> emissions.
- (c) Tippecanoe County has been classified as attainment or unclassifiable in Indiana for all remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (d) Fugitive Emissions  
 Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 or 326 IAC 2-3, fugitive emissions are not counted toward the determination of PSD and Emission Offset applicability.

Source Status
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The table below summarizes the potential to emit of the entire source, prior to the proposed modification, after consideration of all enforceable limits established in the effective permits:

Pollutant	Emissions (tons/year)
PM	26.2
PM <sub>10</sub>	25.6
SO <sub>2</sub>	292
VOC	303
CO	211
NO <sub>x</sub>	623

- (a) This existing source is a major stationary source, under PSD (326 IAC 2-2), because a regulated pollutant is emitted at a rate of two hundred and fifty (250) tons per year or more, and it is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1).
- (b) These emissions are based upon the limitations in the Part 70 Operating Permit.

The table below summarizes the potential to emit HAPs for the entire source, prior to the proposed modification, after consideration of all enforceable limits established in the effective permits:

HAPs	Potential To Emit (tons/year)
Ethyl Benzene	36.5
Glycol Ethers	36.4
Xylenes	77.1
Benzene	0.334
Formaldehyde	9.53
Hexane	2.16
Toluene	0.169
1,3-Butadiene	0.140
2,2,4-Trimethylpentane	0.145
Acetaldehyde	1.43
Acrolein	1.33
Biphenyl	0.036
Methanol	0.524
Methylene Chloride	0.025
Naphthalene	0.017
Ethylene Dibromide	0.013
1,1,2,2-Tetrachloroethane	0.011
Selenium	0.011
1,1,2-Trichloroethane, 1,3-Dichloropropene, Carbon Tetrachloride, Chlorobenzene, Dichlorobenzene, Chloroform, Lead, Cadmium, Chromium, Manganese, Nickel, Arsenic, Beryllium, Mercury, Chloroethane, Phenol, Styrene, Vinyl Chloride	< 0.01, each
<b>TOTAL</b>	<b>166</b>

This existing source is a major source of HAPs, as defined in 40 CFR 63.41, because HAP emissions are greater than ten (10) tons per year for a single HAP and greater than twenty-five (25) tons per year for a combination of HAPs. Therefore, this source is a major source under Section 112 of the Clean Air Act (CAA).

Actual Emissions
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The following table shows the actual emissions from the source. This information reflects the 2003 OAQ emission data.

Pollutant	Actual Emissions (tons/year)
PM	Not reported
PM <sub>10</sub>	13
SO <sub>2</sub>	12
VOC	63
CO	48
NO <sub>x</sub>	189
HAP (Glycol Ethers)	1.77
HAP (Ethylene Glycol)	0.004

Description of Proposed Modification

The Office of Air Quality (OAQ) has reviewed a modification application, submitted by Caterpillar, Inc. on March 9, 2006, relating to an increase in the limited potential to emit from the twenty (20) 3500 engine test cells, identified as M501 through M520, and one (1) 3600 engine test cell, identified as M522, all constructed in 1979. On August 17, 2006, the applicant requested a relaxation in the potential to emit of one (1) packaging test cell, identified as M525, constructed in 1988, and inclusion of that unit in the new limit for the twenty (20) 3500 engine test cells, identified as M501 through M520, and one (1) 3600 engine test cell, identified as M522. The applicant also proposed to construct one (1) packaging test cell, identified as M526, and include that unit in the proposed limit and PSD review.

Fuel usage limitations specified in the initial Part 70 Operating Permit resulted in a potential to emit less than 250 tons per year of NO<sub>x</sub> from the twenty (20) 3500 engine test cells, identified as M501 through M520, and one (1) 3600 engine test cell, identified as M522. Therefore, the modification permitted in 1979 was a minor modification to an existing minor source pursuant to 326 IAC 2-2, PSD.

Fuel usage limitations specified in the initial Part 70 Operating Permit resulted in a potential to emit less than 40 tons per year of NO<sub>x</sub> from the one (1) packaging test cell, identified as M525. Therefore, the modification permitted in 1988 was a minor modification to an existing major source pursuant to 326 IAC 2-2, PSD.

The applicant projects that it may need to exceed the fuel use limit in early 2007. Thus, a new limit is proposed. Based upon the proposed limit, the modification is major for NO<sub>x</sub> pursuant to 326 IAC 2-2, PSD, and PSD review is required. The modification has been combined into this Part 70 Operating Permit renewal.

The following is a list of emission units affected by this modification:

- (a) Twenty (20) 3500 engine test cells, identified as M501 through M520, constructed in 1979, exhausting at stack vents W-4 (A through T), maximum heat input capacity: 7.6 million British thermal units per hour, each, when operating on diesel fuel and 6.1 million British thermal units per hour, each, when operating on natural gas.
- (b) One (1) 3600 engine test cell, identified as M522, constructed in 1979, exhausting at stack vents W-8 (A and B), maximum heat input capacity: 7.6 million British thermal units per hour when operating on diesel fuel and 6.1 million British thermal units per hour when operating on natural gas.

- (c) One (1) packaging test cell, identified as M525, constructed in September 1988, exhausting at stack vents W-9 (A through D), maximum heat input capacity: 20.3 million British thermal units per hour when operating on diesel fuel and 13.7 million British thermal units per hour when operating on natural gas.

The following is a list of new, proposed emission units included in this modification:

One (1) packaging test cell, identified as M526, constructed in 2006, exhausting at stack vents W-9 (A through D), maximum heat input capacity: 20.3 million British thermal units per hour when operating on diesel fuel and 13.7 million British thermal units per hour when operating on natural gas.

Enforcement Issues

There are no pending enforcement actions.

Stack Summary
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There are no new stacks due to this modification.

Emission Calculations
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See Appendix A of this document for detailed emission calculations (15 pages).

Permit Level Determination – Part 70
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Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emission unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U.S. EPA, IDEM, or the appropriate local air pollution control agency.”

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

The following table only represents the potential to emit of the twenty-one (21) engine test cells, M501 through M520 and M522, and two (2) packaging test cells, M525 and M526, before and after the modification to the fuel usage limit.

Pollutant	PTE Before Modification (tons/year)	PTE After Modification (tons/year)	Net Difference (tons/year)
PM	4.30	8.40	4.10
PM <sub>10</sub>	4.30	8.40	4.10
SO <sub>2</sub>	18.4	36.0	17.6
VOC	9.21	18.0	8.79
CO	50.3	98.4	48.1
NO <sub>x</sub>	289.8	566	277

Pollutant	PTE Before Modification (tons/year)	PTE After Modification (tons/year)	Net Difference (tons/year)
Single HAP (Formaldehyde - Worse Case Individual)	3.92	7.66	3.74
Total HAPs	5.78	11.3	5.52

This source modification is subject to 326 IAC 2-7-10.5 (f)(1) and (3), any modification that would be subject to 326 IAC 2-2, any modification with a potential to emit greater than or equal to twenty-five (25) tons per year of any of nitrogen oxides (NO<sub>x</sub>). This modification has been incorporated into the Part 70 Operating Permit Renewal review.

Permit Level Determination – PSD or Emission Offset

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 Operating Permit Renewal, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

Process/Emission Unit	Potential to Emit (tons/year)						
	PM	PM <sub>10</sub>	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	Total HAPs
Twenty-one (21) engine test cells, M501 through M520 and M522, and two (2) packaging test cells, M525 and M526	8.40	8.40	36.0	18.0	98.4	566	11.3
Total for Modification	8.40	8.40	36.0	18.0	98.4	566	11.3
Significant Level or Major Source Threshold	250	250	250	250	250	250	--

- (1) NO<sub>x</sub>  
 This source is already a major source pursuant to 326 IAC 2-2, PSD. This modification is a relaxation of a limit that made 326 IAC 2-2, PSD, not applicable. There is no physical modification to the source. The potential to emit NO<sub>x</sub> from the twenty-one (21) engine test cells, M501 through M520 and M522, is now greater than 250 tons per year, and the potential to emit NO<sub>x</sub> from the two (2) packaging test cells, M525 and M526, is greater than 40 tons per year, each. Pursuant to 40 CFR 52.21(r)(4), "At such time that a particular source or modification becomes a major stationary source or major modification solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements or paragraphs (j) through (s) of this section shall apply to the source or modification as though construction had not yet commenced on the source or modification." Therefore, the requirements of 326 IAC 2-2, PSD, are now applicable, as if the engines had not yet been constructed and operated.

- (2) **CO**  
 The applicant has agreed to continue to limit CO emissions to less than 100 tons per year for this modification. The throughput limitations required to limit NO<sub>x</sub> emissions will also limit the potential to emit CO to less than 100 tons per year. The CO emissions when operating on diesel fuel shall not exceed 82.0 pounds per thousand gallons of diesel fuel and CO emissions when operating on natural gas shall not exceed 317 pounds per million cubic feet of natural gas. This diesel emission factor was based on the U.S. EPA standards and the emission factors Caterpillar, Inc. provides to their customers based on in-house testing, and the emission limitation in pounds per million cubic feet of natural gas is equal to the AP-42 emission factor of 0.317 pounds per million British thermal units. Therefore, pursuant to 326 IAC 2-2, BACT is not required for CO emissions.
- (3) **Other Pollutants**  
 The potential to emit all other pollutants is still less than forty (40) tons per year from this modification, and the increase in the potential to emit each pollutant is less than the PSD Significant Levels. Therefore, the PSD review is only for NO<sub>x</sub> emissions.

**326 IAC 2-2-3 Control technology review; requirements**

Best Available Control Technology Analysis (BACT):

The only pollutant that will exceed major source thresholds pursuant to 326 IAC 2-2, PSD, due to this modification is NO<sub>x</sub>. Therefore, the applicant submitted a BACT analysis for NO<sub>x</sub> emissions from the engine test cells.

- (a) **RACT/BACT/LAER Clearinghouse:**  
 The applicant did not find any similar sources in the RACT/BACT/LAER Clearinghouse. The applicant found four (4) entries for reciprocating engine test cells. It should also be noted that in none of these four (4) cases is there any add on controls for NO<sub>x</sub> control. The following is their analysis, which has been verified by IDEM, OAQ:

Source Name	Location	NO <sub>x</sub> Limit	Type of Facility
General Motors (MI-0367)	Oakland County, Michigan	2.2 lb/MMBTU when using diesel fuel; 1.38 lb/MMBtu when using gasoline	Diesel and gasoline light truck engine test cells
Arnold Air Force Base (TN-0103)	Coffee/Franklin Counties, Tennessee	1038 tons per year (standardized to 1.087 grams per brake horsepower hour)	Jet engine test cells
Schenck Pegasus Company (MI-0306)	Oakland County, Michigan	5.76 lbs/hr	Gasoline engine test cells
John Deere Product Engineering Center (IA-0076)	Iowa	3.66 grams per brake horsepower hour	Diesel engine test cells

- (1) **General Motors**  
 The tests at the General Motors source located in Oakland County, Michigan, are conducted on light trucks. Therefore, they are not similar to the heavy equipment engines tested at Caterpillar, Inc.
- (2) **Arnold Air Force Base and Schenck Pegasus Company**  
 Caterpillar, Inc. does not test jet engines or gasoline engines. Therefore, the test cells at Arnold Air Force base and Schenck Pegasus Company are also not comparable.

- (3) John Deere Product Engineering Center  
 Although the limits are for diesel engine test cells at the John Deere source, Caterpillar, Inc. does not believe that John Deere engines are a similar source. NO<sub>x</sub> limits for engines are established by U.S. EPA and are dependent upon the engine size and the ultimate use of the engine (on-road versus off-road). The information in the RACT/BACT/LAER Clearinghouse for John Deere shows an emission value of 3.66 grams per brake horsepower hour. The note indicates that this value is not a permit limit. Other information for this source indicates that the test cells range in size up to 1,000 horsepower. These engines are subject to Tier 3 standards developed by U.S. EPA. The test cell engines at Caterpillar, Inc. are much larger (2,200 horsepower) and are subject to various U.S. EPA standards (Tiers 1, 2 and 4). Some engines manufactured at Caterpillar, Inc. are not subject to U.S. EPA standards, and have emission factors as high as 10.52 grams per brake horsepower hour. Others must meet Tier 1 standards (8.03 grams per brake horsepower hour). Yet others must meet Tier 2 standards (5.39 grams per brake horsepower hour). See page 15 of Appendix A of this document for detailed calculations. IDEM, OAQ, has confirmed that the test cells at the John Deere facility have capacities up to 1,000 horsepower. Though they are also off-road engines, they are subject to the U.S. EPA Tier 3 standards. Therefore, the engines manufactured at Caterpillar, Inc. are not similar to the engines manufactured at that John Deere source.

Source Name	HP Rating	Use	EPA Standard
Caterpillar, Inc.	2,200	Off-road engines	Tiers 1, 2 and 4, and others not subject to standards
John Deere Product Engineering Center	# 1,000	Off-road engines	Tier 3

Therefore, no similar sources were found in the RACT/BACT/LAER Clearinghouse.

- (b) Add-On Controls:  
 The applicant considered three (3) control options, including Selective Catalytic Reduction (SCR), Non-Selective Catalytic Reduction (NSCR) and SCONOX Catalytic Reduction. To operate efficiently, these technologies require stable exhaust flows rates, a specific temperature range, and a constant NO<sub>x</sub> concentration. These conditions will not occur at Caterpillar, Inc. Typical engine tests run for nineteen (19) minutes, with a maximum test time of thirty (30) minutes. During this period, the engines are run at various loads and speeds. Therefore, add-on controls are not technically feasible. There are no other known sources using add-on controls for this type of process.
- (c) Proposed BACT:  
 The limit proposed by Caterpillar is NO<sub>x</sub> emissions no more than 566 tons per year, based on a diesel throughput limit of 2,400,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month, and a NO<sub>x</sub> emission factor of 472 pounds per 1,000 gallons of diesel throughput. This emission factor is the worst-case (highest) emission factor among the engines currently manufactured at Caterpillar, Inc. For the purposes of this NO<sub>x</sub> limit, one (1) million cubic feet natural gas usage by the twenty-one (21) engine test cells (M501-M520 and M522) and two (2) packaging test cells (M525 and M526) will be equivalent to 8.65 thousand gallons of diesel fuel at the test cells and the NO<sub>x</sub> emissions shall be limited to 277 pounds per million cubic feet of natural gas. The NO<sub>x</sub> emission limitation in pounds per million cubic feet of natural gas is equal to the AP-42 emission factor of 4.08 pounds per million British thermal units.

**326 IAC 2-2-4 Air quality analysis; requirements**  
**326 IAC 2-2-5 Air quality impact; requirements**  
**326 IAC 2-2-6 Increment consumption; requirements**  
**326 IAC 2-2-7 Additional analysis; requirements**

An Air Quality Analysis was performed by IDEM, OAQ, and is attached as Appendix B of this document. Based on the potential emissions after controls, a PSD air quality analysis was triggered for NO<sub>2</sub>. The significant impact analysis determined that modeling concentrations for NO<sub>x</sub> exceeded the significant impact levels. A refined analysis was required and showed no violation of the NAAQS and the PSD increment. The pre-and post-construction monitoring requirements are not necessary. A Hazardous Air Pollutant (HAP) analysis was not performed since there was no HAP emissions increase. An additional impact analysis was conducted and showed no significant impact. Based on the modeling results, the source will not have a significant impact upon federal air quality standards.

Description of Entire Source
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The Office of Air Quality (OAQ) has reviewed a Part 70 Operating Permit Renewal application, submitted by Caterpillar, Inc. on September 29, 2003, relating to the continued operation of an internal combustion engine manufacturing source, consisting of the following:

**Permitted Emission Units and Pollution Control Equipment**

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

- (a) Three (3) boilers, identified as BY24010, BY24011, and BY24012, constructed in 1979, fired by natural gas or no. 2 fuel oil, exhausting to stack B-1, maximum heat input capacity: 83.3 million British thermal units per hour, each. Under 40 CFR 63, Subpart DDDDD, these are existing affected units in the large liquid fuel subcategory.
- (b) Twenty (20) 3500 engine test cells, identified as M501 through M520, constructed in 1979, exhausting at stack vents W-4 (A through T), maximum heat input capacity: 7.6 million British thermal units per hour, each, when operating on diesel fuel and 6.1 million British thermal units per hour, each, when operating on natural gas.
- (c) One (1) 3600 engine test cell, identified as M522, constructed in 1979, exhausting at stack vents W-8 (A and B), maximum heat input capacity: 7.6 million British thermal units per hour when operating on diesel fuel and 6.1 million British thermal units per hour when operating on natural gas.
- (d) One (1) packaging test cell, identified as M525, constructed in September 1988, exhausting at stack vents W-9 (A through D), maximum heat input capacity: 20.3 million British thermal units per hour when operating on diesel fuel and 13.7 million British thermal units per hour when operating on natural gas.
- (e) One (1) power module for parallel testing, identified as M547, constructed in October 1991, exhausting at stack vent W-10, maximum heat input capacity: 16.9 million British thermal units per hour when operating on diesel fuel and 16.9 million British thermal units per hour when operating on natural gas.
- (f) One (1) dual fuel 3600 test stand, identified as M523, constructed in March 1994, exhausting at stack vents W-11 (A and B), maximum heat input capacity: 15.3 million British thermal units per hour when operating on diesel fuel and 11.0 million British thermal units per hour when operating on natural gas.
- (g) One (1) ABV Rock Test site, identified as M528, constructed in February 1996, exhausting at

stack vent W-12A, maximum heat input capacity: 8.5 million British thermal units per hour when operating on diesel fuel and 8.5 million British thermal units per hour when operating on natural gas.

- (h) Three (3) peak shaving diesel generators, identified as EL45016, constructed in January 1995, exhausting at stack vents W-13 and W-14, maximum heat input capacity: 42.4 million British thermal units per hour, total.
- (i) Two (2) peak shaving diesel generators, also used as emergency generators, constructed in 1982, one (1) located in Building R and one (1) located in building B, maximum heat input capacity: 13.0 million British thermal units per hour, total.
- (j) Six (6) trailer mounted emergency generator sets, identified as Power Generators 1-6, located east of Building N, constructed in 2001, each rated at 1825 kw (prime power) with a maximum fueling rate of 123.9 gallons of no. 2 diesel fuel per hour, maximum heat input capacity: 102.8 million British thermal units per hour, total.
- (k) One (1) product paint booth, identified as M751, constructed in 1979, equipped with electrostatic airless spray guns and dry filters for overspray controls, exhausting at stack W-1, capacity: 15 engines per hour. Under 40 CFR 63, Subpart M MMM, this is part of an existing affected source in the general use subcategory.
- (l) One (1) product paint booth, identified as M775, constructed in 1979, equipped with electrostatic airless spray guns and dry filters for overspray controls, exhausting at stack W-2, capacity: 2.09 engines per hour. Under 40 CFR 63, Subpart M MMM, this is part of an existing affected source in the general use subcategory.
- (m) One (1) product paint booth, identified as M771, constructed in 1979, equipped with electrostatic airless spray guns and dry filters and a water wash system for overspray controls, exhausting at stack W-3, capacity: 1.25 to 5.25 engines per hour. Under 40 CFR 63, Subpart M MMM, this is part of an existing affected source in the general use subcategory.

#### **Unpermitted Emission Units and Pollution Control Equipment**

There are no unpermitted emission units operating at this source during this review process.

#### **New Emission Units and Pollution Control Equipment Receiving Advanced Source Modification Approval**

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

One (1) packaging test cell, identified as M526, constructed in 2006, exhausting at stack vents W-9 (A through D), maximum heat input capacity: 20.3 million British thermal units per hour when operating on diesel fuel and 13.7 million British thermal units per hour when operating on natural gas.

#### **Insignificant Activities**

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

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) British thermal units per hour, not including any boilers.
- (b) Propane for liquefied petroleum gas, or butane-fired combustion sources with heat input equal

- to or less than six million (6,000,000) British thermal units per hour, not including any boilers.
- (c) Fuel oil-fired combustion sources with heat input equal to or less than two million (2,000,000) British thermal units per hour and firing fuel containing less than five-tenths (0.5) percent sulfur by weight, not including any boilers.
  - (d) Equipment powered by internal combustion engines of capacity equal to or less than 500,000 British thermal units per hour, except where total capacity of equipment operated by one stationary source exceeds 2,000,000 British thermal units per hour.
  - (e) Combustion source flame safety purging on startup.
  - (f) 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. This includes a 300-gallon tank, with a maximum monthly throughput rate of 1,800 gallons.
  - (g) The following VOC and HAP storage containers:
    - (1) Storage tanks with capacity less than or equal to 1,000 gallons and annual throughputs less than 12,000 gallons.
    - (2) Vessels storing lubricating oil, hydraulic oils, machining oils, and machining fluids.
  - (h) Equipment used exclusively for filling drums, pails or other packaging containers with lubricating oils, waxes, and greases.
  - (i) Application of oils, greases lubricants or other nonvolatile materials applied as temporary protective coatings.
  - (j) Machining where an aqueous cutting coolant continuously floods the machining interface.
  - (k) Cleaners and solvents characterized as follows:
    - (1) having a vapor pressure equal to or less than 2 kiloPascals; 15 millimeters of mercury; or 0.3 pounds per square inch measured at 38°C (100°F); or
    - (2) having a vapor pressure equal to or less than 0.7 kiloPascals; 5 millimeters of mercury; or 0.1 pounds per square inch measured at 20°C (68°F); the use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months.
  - (l) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches soldering equipment, welding equipment.
  - (m) Closed loop heating and cooling systems.
  - (n) Structural steel and bridge fabrication activities using 80 tons or less of welding consumables.
  - (o) Activities associated with the treatment of wastewater streams with an oil and grease content less than or equal to 1 percent by volume.
  - (p) Any operation using aqueous solutions containing less than 1 percent by weight of VOCs excluding HAPS.
  - (q) Noncontact cooling tower systems with forced and induced draft cooling tower system not

regulated under a NESHAP.

- (r) Quenching operations used with heat treating processes.
- (s) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment.
- (t) Heat exchanger cleaning and repair.
- (u) Process vessel degassing and cleaning to prepare for internal repairs.
- (v) Paved and unpaved roads and parking lots with public access.
- (w) Purging of gas lines and vessels that is related to routine maintenance and repair of buildings, structures, or vehicles at the source where air emissions from those activities would not be associated with any production process.
- (x) 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.
- (y) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.
- (z) On-site fire and emergency response training approved by the department.
- (aa) Emergency generators (for emergency lighting) as follows:
  - Gasoline generators not exceeding 110 horsepower.
  - Diesel generators not exceeding 1,600 horsepower.
- (bb) Other emergency equipment as follows: stationary fire pumps.
- (cc) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4,000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations. [326 IAC 6-3-2]
- (dd) Filter or coalescer media changeout.
- (ee) A laboratory as defined in 326 IAC 2-7-1(21)(D).
- (ff) Other activities or categories with emissions equal to or less than the insignificant activity thresholds:
  - (1) One (1) diesel fuel tank, constructed in 1981, capacity: 150,000 gallons.
  - (2) One (1) no. 2 heating fuel oil tank, constructed in 1981, capacity: 400,000 gallons.
  - (3) One (1) no. 2 heating fuel day tank, constructed after May 18, 1978 and prior to July 23, 1984, capacity: 25,000 gallons.
  - (4) One (1) propane storage tank, constructed after May 18, 1978 and prior to July 23, 1984, capacity: 12,000 gallons.

(gg) Other activities with individual HAP emissions greater than one (1) pound per day, but less than five (5) pounds per day or one (1) tons per year of a single HAP:

- (1) One (1) methanol aboveground storage tank, constructed in 1999, capacity: 15,000 gallons.
- (2) One (1) ethylene glycol storage tank, constructed after May 18, 1978 and prior to July 23, 1984, capacity: 20,000 gallons.

There is a maintenance paint booth at this source. The paint booth does not coat any products or parts used in production. Therefore, it is considered trivial and is not listed here.

Potential to Emit of Entire Source
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The table below summarizes the potential to emit, reflecting all limits, of all emission units. Any control equipment is considered federally enforceable only to the extent that the effect of the control equipment is made practically enforceable in the permit.

Process/Emission Unit	Potential to Emit (tons/year)						
	PM	PM <sub>10</sub>	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	Total HAPs
Three (3) Boilers (BY24010, BY24011, and BY24012)	14.0	15.6	246	6.02	91.9	156	2.07
Twenty-one (21) engine test cells, (M501 - M520 and M522) and two (2) packaging test cells (M525 and M526)	8.40	8.40	36.0	18.0	98.4	566	11.3
Power Module (M547)	1.16	0.667	5.88	24.0	14.0	37.3	3.10
Dual Fuel 3600 Test Stand (M523)	1.16	0.675	5.88	11.5	27.8	37.3	3.92
ABV Rock Test Site (M528)	1.16	0.667	5.88	1.62	9.89	39.6	1.13
Five (5) Peak Shaving Diesel Generators	1.16	0.666	5.87	1.05	9.88	37.2	0.00
Six (6) Trailer Mounted Diesel Emergency Generators	0.801	0.459	4.04	0.721	6.81	25.6	0.00
Paint booths (M751, 771, and 775)	2.49	2.49	0.00	249	0.00	0.00	150
<b>Total</b>	<b>30.3</b>	<b>29.7</b>	<b>310</b>	<b>312</b>	<b>259</b>	<b>900</b>	<b>171</b>

The potential to emit in this table is the limited potential to emit based on the limits detailed under "326 IAC 2-2 (Prevention of Significant Deterioration (PSD))" in the State Rule Applicability - Entire Source section of this permit. The emissions from insignificant activities are not included in this table because this source is already a major source pursuant to 326 IAC 2-7, Part 70, 326 IAC 2-2, PSD.

Federal Rule Applicability Determination
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Since the initial Part 70 Operating Permit was issued, additional Federal Rules have been promulgated. Therefore, some of the following applicability determinations are new. The applicability determinations for rules existing on July 13, 1999 have not changed. The following federal rules are applicable to the source:

- (a) This source is not a bulk gasoline terminal as defined by 40 CFR Part 60, Subpart R. Therefore, the requirements of 40 CFR Part 60, Subpart R and 40 CFR Part 63, Subpart XX, are not included in the permit for the insignificant gasoline fuel transfer facilities.
- (b) The methanol tank, propane tank, no. 2 fuel oil day tank, and ethylene glycol tank were constructed after May 18, 1978 and prior to July 23, 1984, and have capacities less than 40,000 gallons, each. Therefore, the requirements of 40 CFR Part 60, Subpart Ka, are not included in the permit.
- (c) The diesel fuel tank with a capacity of 150,000 gallons and the no. 2 fuel oil tank with a capacity of 400,000 gallons were both constructed in 1981. Therefore, they are subject to the requirements of 40 CFR Part 60, Subpart Ka. The true vapor pressure of the fuel oil stored in each tank is less than 1.5 pounds per square inch (psia). Therefore, there is no emission standard applicable to the tanks pursuant to 40 CFR Part 60.112a. Since the true vapor pressure of the fuel oil stored in each tank is less than 1.0 psia, the tanks are exempt from the record keeping requirements of 40 CFR Part 60.114a pursuant to 40 CFR Part 60.114a(e). Should the true vapor pressure of the petroleum liquid stored in either tank at any time exceed 1.0 psia, the owner or operator of the tanks must maintain a record of the petroleum liquid stored, the period of storage, and the maximum true vapor pressure of that liquid during that storage period. Should, at any time, the true vapor pressure of the liquid stored exceed 1.5 psia, the tanks will become subject to the requirements of 40 CFR Parts 60.112a and 60.113a.
- (d) The three (3) steam generating boilers, identified as BY24010, BY24011, and BY24012, constructed in 1979, have maximum capacities of 83.3 million British thermal units per hour, each, which are less than 250 million British thermal units per hour. Therefore, the requirements of 40 CFR Part 60, Subpart D are not included in the permit.
- (e) The three (3) steam generating boilers, identified as BY24010, BY24011, and BY24012, constructed in 1979, have maximum capacities of 83.3 million British thermal units per hour, each, which are less than 100 million British thermal units per hour. Therefore, the requirements of 40 CFR Part 60, Subpart Dc, are not included in the permit.
- (f) The three (3) boilers, identified as BY24010, BY24011, and BY24012, are industrial boilers as defined in 40 CFR 63.7575 located at a major source of HAPs. Therefore, they are affected source pursuant to 40 CFR 63, Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters. The boilers, constructed prior to January 13, 2003, are existing boilers. The boilers can each operate on liquid fuel and have a capacity greater than ten (10) million British thermal units per hour. Therefore, they are in the large liquid fuel subcategory based on the definitions in 40 CFR 63.7575. Pursuant to 40 CFR 63.7506(b), the affected boilers are subject to only the initial notification requirements in §63.9(b) (i.e., they are not subject to the emission limits, work practice standards, performance testing, monitoring, SSMP, site-specific monitoring plans, recordkeeping and reporting requirements of this subpart or any other requirements in subpart A of this part). An initial notification was submitted on February 11, 2005.

- (g) The twenty (20) 3500 engine test cells (M501 through M520), one (1) 3600 engine test cell (M522), two (2) packaging test cell (M525 and M526), one (1) power module for parallel testing (M547), one (1) dual fuel 3600 test stand (M523), and one (1) ABV Rock Test site (M528) are engine test cells/stands at a major source of HAPs. Pursuant to 40 CFR 63.9290, Subpart P, an affected source is the collection of all equipment and activities associated with engine test cells/stands used for testing uninstalled stationary or uninstalled mobile (motive) engines located at a major source of HAP emissions. The affected source was constructed prior to May 4, 2002, and has not been reconstructed. Therefore, it is an existing affected source pursuant to 40 CFR 63.9290, Subpart P, National Emission Standards for Hazardous Air Pollutants for Engine Test Cells/Standards. Pursuant to 40 CFR 63.9290(b), existing affected sources do not have to meet the requirements of Subpart P and of Subpart A of Part 63. Therefore the requirements of 40 CFR 63, Subpart P, National Emission Standards for Hazardous Air Pollutants for Engine Test Cells/Standards, are not included in the permit.
- (h) Pursuant to 40 CFR 63.6585, a source is subject to Subpart ZZZZ if it owns or operates a stationary RICE at a major source of HAP emissions, except if the stationary RICE is being tested at a stationary RICE test cell/stand. The stationary RICE's at this source, which are not being tested at a stationary test cell/stand, are the five (5) peak shaving diesel generators, the six (6) trailer mounted emergency generator sets, and the insignificant generators for emergency lighting. All of these were constructed prior to December 19, 2002, and were not reconstructed, and all are emergency or limited use engines. Pursuant to 40 CFR 63.6590(b)(3), a stationary RICE which is an existing spark ignition 2 stroke lean burn (2SLB) stationary RICE, an existing spark ignition 4 stroke lean burn (4SLB) stationary RICE, an existing compression ignition (CI) stationary RICE, an existing emergency stationary RICE, an existing limited use stationary RICE, or an existing stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, does not have to meet the requirements of this subpart and of Subpart A of this part. No initial notification is necessary. Therefore, the requirements of 40 CFR 63, Subpart ZZZZ, are not included in the permit.
- (i) This source performs metal coating operations and is a major source of HAPs. Therefore, this source is subject to the requirements of 40 CFR 63, Subpart MMMM, National Emission Standards for Miscellaneous Metal Parts and Products Surface Coating Operations.

Construction of this affected source commenced prior to August 13, 2002. Therefore, this is an existing affected source.

The processes currently existing at this source subject to the rule include metal coating operations and the associated storage containers and mixing vessels, manual and automated equipment and containers used for conveying coatings, thinners and/or other additives, and cleaning materials, storage containers and all manual and automated equipment and containers used for conveying waste materials generated by a coating operation. The specific facilities subject to this rule include the following:

- (1) One (1) product paint booth, identified as M751, constructed in 1979, equipped with electrostatic airless spray guns and dry filters for overspray controls, exhausting at stack W-1, capacity: 15 engines per hour. Under 40 CFR 63, Subpart MMMM, this is part of an existing affected source in the general use subcategory.
- (2) One (1) product paint booth, identified as M775, constructed in 1979, equipped with electrostatic airless spray guns and dry filters for overspray controls, exhausting at stack W-2, capacity: 2.09 engines per hour. Under 40 CFR 63, Subpart MMMM, this is part of an existing affected source in the general use subcategory.

- (3) One (1) product paint booth, identified as M771, constructed in 1979, equipped with electrostatic airless spray guns and dry filters and a water wash system for overspray controls, exhausting at stack W-3, capacity: 1.25 to 5.25 engines per hour. Under 40 CFR 63, Subpart M MMM, this is part of an existing affected source in the general use subcategory.

These processes fall into the general use coating subcategory because they are not high performance, magnet wire, rubber-to-metal, or extreme performance fluoropolymer coating operations. Non applicable portions of the NESHAP will not be included in the permit. The facilities are subject to the following portions of Subpart M MMM:

- (1) 63.3880
- (2) 63.3881(a)(1) and (2) and (b)
- (3) 63.3882(a), (b) and (e)
- (4) 63.3883(b) and (d)
- (5) 63.3890(b)(1)
- (6) 63.3891(a)
- (7) 63.3892(a)
- (8) 63.3893(a)
- (9) 63.3900(a)(1) and (b)
- (10) 63.3901
- (11) 63.3910(a), (b), (c)(1) through (7) and (8)(i)
- (12) 63.3920(a)(1) through (3)(iv), (4) and (5)
- (13) 63.3930(a), (b), (c)(1) and (2), (d), (e), (f), and (j)
- (14) 63.3931
- (15) 63.3940
- (16) 63.3941
- (17) 63.3942
- (18) 63.3980
- (19) 63.3981
- (20) Tables 2, 3 and 4

The provisions of 40 CFR 63 Subpart A – General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the facilities described in this section except when otherwise specified in 40 CFR 63 Subpart M MMM.

- (j) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is applicable to emission units that involve a pollutant-specific emission unit and meet the following criteria:
- (1) has a potential to emit before or after controls equal to or greater than the major source threshold for the pollutant involved;
  - (2) is subject to an emission limitation or standard for that pollutant; and
  - (3) uses a control device, as defined in 40 CFR 64.1, to comply with that emission limitation or standard.

The following table is used to identify the applicability of each of the applicability criteria, under 40 CFR 64.1, to each new or modified emission unit involved:

Emission Unit	Control Device Used	Emission Limitation (Y/N)	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	Major Source Threshold (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
Three (3) Boilers (BY24010, BY24011, BY24012)	None	Y	PM: 14.0 PM <sub>10</sub> : 15.6 SO <sub>2</sub> : 246 NO <sub>x</sub> : 156 CO: 91.9 VOC: 6.02	PM: 14.0 PM <sub>10</sub> : 15.6 SO <sub>2</sub> : 246 NO <sub>x</sub> : 156 CO: 91.9 VOC: 6.02	100	N	N
Twenty-one (21) engine test cells (M501 - M520 &M522) and two (2) packaging test cells (M525 & M526)	None	Y	PM: 8.40 PM <sub>10</sub> : 8.40 SO <sub>2</sub> : 36.0 NO <sub>x</sub> : 566 CO: 98.4 VOC: 18.0	PM: 8.40 PM <sub>10</sub> : 8.40 SO <sub>2</sub> : 36.0 NO <sub>x</sub> : 566 CO: 98.4 VOC: 18.0	100	N	N
Power Module (M547)	None	Y	PM: 1.16 PM <sub>10</sub> : 0.667 SO <sub>2</sub> : 5.88 NO <sub>x</sub> : 37.3 CO: 14.0 VOC: 24.0	PM: 1.16 PM <sub>10</sub> : 0.667 SO <sub>2</sub> : 5.88 NO <sub>x</sub> : 37.3 CO: 14.0 VOC: 24.0	100	N	N
Dual Fuel 3600 Test Stand (M523)	None	Y	PM: 1.16 PM <sub>10</sub> : 0.675 SO <sub>2</sub> : 5.88 NO <sub>x</sub> : 37.3 CO: 27.8 VOC: 11.5	PM: 1.16 PM <sub>10</sub> : 0.675 SO <sub>2</sub> : 5.88 NO <sub>x</sub> : 37.3 CO: 27.8 VOC: 11.5	100	N	N

Emission Unit	Control Device Used	Emission Limitation (Y/N)	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	Major Source Threshold (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
ABV Rock Test Site (M528)	None	Y	PM: 1.16 PM <sub>10</sub> : 0.667 SO <sub>2</sub> : 5.88 NO <sub>x</sub> : 39.6 CO: 9.89 VOC: 1.62	PM: 1.16 PM <sub>10</sub> : 0.667 SO <sub>2</sub> : 5.88 NO <sub>x</sub> : 39.6 CO: 9.89 VOC: 1.62	100	N	N
Five (5) Peak Shaving Diesel Generators	None	Y	PM: 1.16 PM <sub>10</sub> : 0.666 SO <sub>2</sub> : 5.87 NO <sub>x</sub> : 37.2 CO: 9.88 VOC: 1.62	PM: 1.16 PM <sub>10</sub> : 0.666 SO <sub>2</sub> : 5.87 NO <sub>x</sub> : 37.2 CO: 9.88 VOC: 1.62	100	N	N
Six (6) Trailer Mounted Diesel Emergency Generators	None	Y	PM: 0.801 PM <sub>10</sub> : 0.459 SO <sub>2</sub> : 4.04 NO <sub>x</sub> : 25.6 CO: 6.81 VOC: 0.721	PM: 0.801 PM <sub>10</sub> : 0.459 SO <sub>2</sub> : 4.04 NO <sub>x</sub> : 25.6 CO: 6.81 VOC: 0.721	100	N	N
Paint Booth (M751)	Dry filters for particulate	Y	PM: 12.6 PM <sub>10</sub> : 12.6 VOC: 71.1	PM: 0.252 PM <sub>10</sub> : 0.252 VOC: 71.1	100	N	N
Paint Booth (M771)	Dry filters for particulate	Y	PM: 98.9 PM <sub>10</sub> : 98.9 VOC: 215	PM: 1.98 PM <sub>10</sub> : 1.98 VOC: 215	100	N	N
Paint Booth (M775)	Dry filters for particulate	Y	PM: 12.8 PM <sub>10</sub> : 12.8 VOC: 29.3	PM: 0.256 PM <sub>10</sub> : 0.256 VOC: 29.3	100	N	N

Based on this evaluation, the requirements of 40 CFR Part 64, CAM are not applicable to any of the units at this source.

State Rule Applicability Determination
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The following state rules are applicable to the source:

1. 326 IAC 2-2 (Prevention of Significant Deterioration (PSD))
  - (a) PSD applicability for the proposed modification is discussed under the Permit Level Determination - PSD and Emission Offset section. The proposed modification is subject to the requirements of 326 IAC 2-2, PSD. The source must comply with the following Best Avail-

able Control Technology (BACT) requirements in order to satisfy the requirements of 326 IAC 2-2, for the twenty-one (21) engine test cells, identified as M501 - M520 and M522, and two (2) packaging test cells, identified as M525 and M526:

The total diesel throughput at the twenty-one (21) engine test cells, identified as M501 - M520 and M522, and two (2) packaging test cells, identified as M525 and M526, shall not exceed 2,400,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. The NO<sub>x</sub> emissions shall not exceed 472 pounds per 1,000 gallons of diesel throughput. For the purposes of this limit, one (1) million cubic feet natural gas usage by the twenty-one (21) engine test cells (M501-M520 and M522) and two (2) packaging test cells (M525 and M526) shall be equivalent to 8.65 thousand gallons of diesel fuel at the test cells and the NO<sub>x</sub> emissions shall be limited to 277 pounds per million cubic feet of natural gas.

The CO emissions when operating on diesel fuel shall not exceed 82.0 pounds per thousand gallons of diesel fuel and CO emissions when operating on natural gas shall not exceed 317 pounds per million cubic feet of natural gas. This will limit the potential to emit CO to less than 100 tons per year.

- (b) This source is an existing major source pursuant to 326 IAC 2-2, PSD. However, this is the first PSD review for this source. Pursuant to T 157-7594-00044 on July 13, 1999, the source has the following emission limitations that will be incorporated into the renewal.
- (1) The input of No. 2 fuel oil to the three (3) boilers shall be limited to less than 11,917,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month, and the sulfur content of the fuel oil used shall not exceed 0.29%. The SO<sub>2</sub> emissions when using No. 2 fuel oil shall not exceed 41.2 pounds per 1,000 gallons, which is equivalent to the AP-42 emission factor when using fuel oil with a limited sulfur content of 0.29% (see page 7 of Appendix A of this document). These usage and emission limits are required to limit the potential to emit SO<sub>2</sub> to less than 246 tons per year from the boilers including the unrestricted potential emissions of SO<sub>2</sub> from natural gas usage. Compliance with these limits makes 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable.
  - (2) The VOC usage including coatings, dilution solvents, and cleaning solvents, at the three (3) product paint booths, identified as M751, M775 and M771, all constructed in 1979, shall be limited to 249 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. Compliance with this limit makes 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable.
  - (3) Pursuant to T 157-7594-00044, issued on July 13, 1999, the one (1) power module, identified as M547, is subject to the following limits:
    - (A) The input of diesel fuel to the one (1) power module shall be limited to 166,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. For the purposes of this NO<sub>x</sub> limit, one (1) million cubic feet of natural gas usage shall be equivalent to using 1,140 gallons of diesel fuel. The NO<sub>x</sub> emissions when using diesel fuel shall not exceed 448 pounds per 1,000 gallons and the NO<sub>x</sub> emissions when using natural gas shall not exceed 535 pounds per million cubic feet. These usage and emission limits are required to limit the potential to emit NO<sub>x</sub> to less than 40 tons per year.
    - (B) The natural gas usage shall not exceed 76.1 million cubic feet per twelve (12) consecutive month period, with compliance determined at the end of

each month. For the purposes of this VOC limit, 1,000 gallons of diesel fuel usage at this facility is equivalent to 0.051 million cubic feet of natural gas. The VOC emissions when using diesel fuel shall not exceed 32.1 pounds per 1,000 gallons and the VOC emissions when using natural gas shall not exceed 630 pounds per million cubic feet. This will limit the VOC emissions to less than twenty-five (25) tons per year in order to make 326 IAC 8-1-6, New facilities; General reduction requirements, not applicable. It will also limit VOC emissions to less than forty (40) tons per year.

Compliance with these limits makes 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable to this minor modification to an existing major source.

- (4) Pursuant to T 157-7594-00044, issued on July 13, 1999, the input of diesel fuel to the one (1) dual fuel 3600 test stand, identified as M523, shall be limited to 166,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. For the purposes of this NO<sub>x</sub> limit, one (1) million cubic feet of natural gas usage shall be equivalent to using 640 gallons of diesel fuel. The NO<sub>x</sub> emissions when using diesel fuel shall not exceed 448 pounds per 1,000 gallons and the NO<sub>x</sub> emissions when using natural gas shall not exceed 300 pounds per million cubic feet. These usage and emission limits are required to limit the potential to emit of NO<sub>x</sub> to less than forty (40) tons per year. Compliance with this limit makes 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 not applicable.
- (5) Pursuant to T 157-7594-00044 on July 13, 1999, the input of diesel fuel to the one (1) ABV Rock Test site, identified as M528, shall be limited to 166,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. For the purposes of this NO<sub>x</sub> limit, one (1) million cubic feet of natural gas usage shall be equivalent to using 5,970 gallons of diesel fuel. The NO<sub>x</sub> emissions when using diesel fuel shall not exceed 448 pounds per 1,000 gallons and the NO<sub>x</sub> emissions when using natural gas shall not exceed 2,840 pounds per million cubic feet. This usage limit is required to limit the potential to emit of NO<sub>x</sub> to less than forty (40) tons per year. Compliance with this limit makes 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable.
- (6) Pursuant to T 157-7594-00044, issued on July 13, 1999, and Significant Source Modification 157-11970-00044, issued on May 15, 2000, the input of diesel fuel to the five (5) peak shaving diesel generators shall be limited to 166,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. The NO<sub>x</sub> emissions shall not exceed 448 pounds per 1,000 gallons and the SO<sub>2</sub> emissions shall not exceed 70.7 pounds per thousand gallons. These limits are required to limit the potential to emit of NO<sub>x</sub> and SO<sub>2</sub> to less than forty (40) tons per year. Compliance with this limit makes 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable.
- (7) Pursuant to T 157-7594-00044, issued on July 13, 1999, and Minor Source Modification 157-14260-00044, issued on May 25, 2001, the input of diesel fuel to the six (6) trailer mounted generator sets shall be limited to less than 114,412.87 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. The NO<sub>x</sub> emissions shall not exceed 437 pounds per 1,000 gallons. These limits are required to limit the potential to emit of NO<sub>x</sub> to less than twenty five (25) tons per year. Compliance with this limit makes 326 IAC 2-7-10.5 (f) and 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable.

The material/fuel usage limitations indicated above are summarized in the following table:

Facility or Facilities	Limitations
Three (3) boilers (BY24010, BY24011, and BY24012)	Sulfur content 0.29%; less than 11,917,000 gallons of No. 2 fuel oil per twelve (12) consecutive month period
Twenty-three (23) engine test cells (M501 - M520, M522, M525 & M526)	2,400,000 gallons of diesel fuel per twelve (12) consecutive month period
One (1) power module for parallel testing (M547)	166,000 gallons of diesel fuel per twelve (12) consecutive month period; 76.1 million cubic feet of natural gas per twelve (12) consecutive month period
One (1) dual fuel 3600 test stand (M523)	166,000 gallons of diesel fuel per twelve (12) consecutive month period
One (1) ABV Rock Test site (M528)	166,000 gallons of diesel fuel per twelve (12) consecutive month period
Five (5) peak shaving diesel generators	166,000 gallons of diesel fuel per twelve (12) consecutive month period
Six (6) trailer mounted generators	114,412.87 gallons of diesel fuel per twelve (12) consecutive month period
Three (3) paint booths (M751, M771, M775)	VOC usage less than 249 tons per twelve (12) consecutive month period

2. 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

The six (6) trailer mounted emergency generator sets, identified as Power Generators 1-6, and the one (1) proposed packaging test cell, identified as M526, emit less than ten (10) tons per year of a single HAP and less than twenty-five (25) tons per year of total HAPs. All other facilities at this source were constructed prior to July 27, 1997. Therefore, the requirements of 326 IAC 2-4.1 are not applicable.

3. 326 IAC 2-6 (Emission Reporting)

Since this source is required to have an operating permit under 326 IAC 2-7, Part 70 Permit Program, this source is subject to 326 IAC 2-6 (Emission Reporting). In accordance with the compliance schedule in 326 IAC 2-6-3, an emission statement must be submitted annually because the potential to emit VOC is greater than two-hundred and fifty (250) tons per year. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

4. 326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity limitations), except as provided in 326 IAC 5-1-3 (Temporary alternative opacity limitations), opacity shall meet the following, unless otherwise stated in the 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.

5. 326 IAC 6-2-3 (Particulate emission limitations for sources of indirect heating)

Pursuant to CP 73-04-91-0408 issued October 27, 1987, the three (3) boilers, identified as BY24010, BY24011, and BY24012, constructed in 1979, with maximum capacities of 83.3 million British thermal units per hour, each, shall be limited to particulate emissions of 0.6 pound per million British thermal units of heat input. This limit is based upon the following calculation:

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

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.

$$Pt = (50 \mu\text{g}/\text{m}^3 \times 0.67 \times 160\text{ft}) / (76.5 \times 249.9^{0.75} \times 1^{0.25}) = 1.11 \text{ lbs PM} / \text{MMBtu}$$

This limit is greater than the maximum allowable emissions stated in 326 IAC 6-2-3(e). Therefore the allowable emissions for the three (3) boilers are 0.6 pound PM per million British thermal units.

Based upon the emission factors in AP-42, the potential PM emissions when operating on natural gas are 0.0019 lb/MMBtu (1.90 lb/MMCF x 1MMcf/1,000 MMBtu = 0.0019 lb/MMBtu) and the potential PM emissions when operating on no. 2 fuel oil are 0.014 lb/MMBtu (2.00 lb/1,000 gal x 1 gal/0.14 MMBtu = 0.014 lb/MMBtu). Therefore, the three (3) boilers can comply with this rule.

6. 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

(a) The three (3) boilers perform combustion for indirect heating and are limited by 326 IAC 6-2. Therefore, pursuant to 326 IAC 6-3-1(b)(1), the boilers are exempt from the requirements of 326 IAC 6-3.

(b) Pursuant to 326 IAC 6-3-1.5(2), the definition of a manufacturing process is "any single or series of actions, operations, or treatments in which a mechanical, physical, or chemical transformation of material occurs that emits, or has the potential to emit, particulate in the production of the product. The term includes transference, conveyance, or repair of a product." The five (5) peak shaving generators and the six (6) trailer mounted emergency generators do not manufacture a product, and operation of the twenty (20) 3500 engine test cells, one (1) 3600 engine test cell, two (2) packaging test cells, one (1) power module for parallel testing, one (1) dual fuel 3600 test stand, and one (1) ABV rock test site do not result in a mechanical, physical or chemical transformation of the product. Therefore, the requirements of 326 IAC 6-3 are not applicable to those units.

(c) The insignificant welding at this source does not use more than 625 pounds of weld wire or rod per day. Therefore, pursuant to 326 IAC 6-3-1(b)(9), the welding is exempt from the

requirements of 326 IAC 6-3.

- (d) The insignificant torch cutting at this source does not use more than 3,400 inches of stock one inch thick or less. Therefore, pursuant to 326 IAC 6-3-1(b)(10), the torch cutting is exempt from the requirements of 326 IAC 6-3.
- (e) The insignificant brazing and soldering have potential particulate emissions less than 0.551 pounds per hour. Therefore, pursuant to 326 IAC 6-3-1(b)(14), those insignificant activities are exempt from the requirements of 326 IAC 6-3.
- (f) Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the insignificant grinding and machining shall be limited as follows:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

The control equipment for each grinding and machining process shall be in operation at all times the process exhausting to that equipment is in operation, in order to comply with this limit.

- (g) Pursuant to 326 IAC 6-3-2(d), the dry filters for particulate control shall be operation in accordance with manufacturer's specifications and control emissions from the three (3) product paint booths, identified as M751, M771 and M775, at all times when the product paint booths are in operation.

7. 326 IAC 7-1.1 (Sulfur dioxide emission limitations)

- (a) The potential to emit SO<sub>2</sub> from each of the three (3) boilers (BY24010, BY24011 and BY24012) is greater than twenty-five (25) tons per year when operating on no. 2 fuel oil. Therefore, the requirements of 326 IAC 7-1.1 are applicable. Pursuant to 326 IAC 7-1.1-2, the SO<sub>2</sub> emissions from each of the three (3) boilers shall not exceed five-tenths (0.5) pound per million British thermal units when operating on no. 2 fuel oil.
- (b) The potential to emit SO<sub>2</sub> from each of the twenty (20) 3500 engine test cells is less than ten (10) pounds per hour and twenty-five (25) tons per year. Therefore, the requirements of 326 IAC 7-1.1 are not applicable.
- (c) The potential to emit SO<sub>2</sub> from the one (1) 3600 engine test cell is less than ten (10) pounds per hour and twenty-five (25) tons per year. Therefore, the requirements of 326 IAC 7-1.1 are not applicable.
- (d) The potential to emit SO<sub>2</sub> from each of the two (2) packaging test cells is less than ten (10) pounds per hour when operating on diesel fuel. Therefore, the requirements of 326 IAC 7-1.1 are not applicable.
- (e) The potential to emit SO<sub>2</sub> from the one (1) power module for parallel testing is greater than twenty-five (25) tons per year when operating on diesel fuel. Therefore, the requirements of 326 IAC 7-1.1 are applicable. Pursuant to 326 IAC 7-1.1-2, the SO<sub>2</sub> emissions from the one (1) power module for parallel testing shall not exceed five-tenths (0.5) pound per million British thermal units when operating on diesel fuel.

- (f) The potential to emit SO<sub>2</sub> from the one (1) dual fuel 3600 test stand is greater than twenty-five (25) tons per year when operating on diesel fuel. Therefore, the requirements of 326 IAC 7-1.1 are not applicable. Pursuant to 326 IAC 7-1.1-2, the SO<sub>2</sub> emissions from the one (1) dual fuel 3600 test stand shall not exceed five-tenths (0.5) pound per million British thermal units when operating on diesel fuel.
- (g) The potential to emit SO<sub>2</sub> from the one (1) ABV rock testing site is less than ten (10) pounds per hour and twenty-five (25) tons per year. Therefore, the requirements of 326 IAC 7-1.1 are not applicable.
- (h) The potential to emit SO<sub>2</sub> from the peak shaving system is greater than ten (10) pounds per hour. Therefore, the requirements of 326 IAC 7-1.1 are applicable. Pursuant to 326 IAC 7-1.1-2, the SO<sub>2</sub> emissions from the peak shaving system shall not exceed five-tenths (0.5) pound per million British thermal units.
- (i) The potential to emit SO<sub>2</sub> from the six (6) trailer mounted generator sets is less than ten (10) pounds per hour and twenty-five (25) tons per year. Therefore, the requirements of 326 IAC 7-1.1 are not applicable.

8. 326 IAC 7-3 (Ambient Monitoring)

This source has total actual emissions of SO<sub>2</sub> less than ten thousand (10,000) tons per year. Therefore, the requirements of 326 IAC 7-3 are not applicable.

9. 326 IAC 8-1-6 (New facilities; General reduction requirements)

- (a) Pursuant to T 157-7594-00044 on July 13, 1999, the natural gas usage at the one (1) power module for parallel testing shall not exceed 76.1 million cubic feet per twelve (12) consecutive month period, with compliance determined at the end of each month. For the purposes of this VOC limit, 1,000 gallons of diesel fuel usage at this facility is equivalent to 0.051 million cubic feet of natural gas. The VOC emissions when using diesel fuel shall not exceed 32.1 pounds per 1,000 gallons and the VOC emissions when using natural gas shall not exceed 630 pounds per million cubic feet. This will limit the VOC emissions to less than twenty-five (25) tons per year in order to make 326 IAC 8-1-6, New facilities; General reduction requirements, not applicable.
- (b) The three (3) product paint booths (M751, M771 and M775) are regulated by 326 IAC 8-2-9. Therefore, the requirements of 326 IAC 8-1-6 are not applicable.
- (c) The potential VOC emissions at each other facility at this source are less than twenty-five (25) tons per year. Therefore, the requirements of 326 IAC 8-1-6 are not applicable.

10. 326 IAC 8-4 (Petroleum Sources)

- (a) The one (1) diesel fuel tank with a capacity of 150,000 gallons and the one (1) no. 2 heating fuel oil tank with a capacity of 400,000 gallons were both constructed after January 1, 1980. The true vapor pressure of the fuel oil stored in each tank is less than 1.52 pounds per square inch (psi). Therefore, the requirements of 326 IAC 8-4-3 are not applicable.
- (b) Pursuant to 326 IAC 8-4-6(a)(8), "Gasoline dispensing facility" means any facility where gasoline is dispensed into motor vehicle fuel tanks or portable containers from a storage tank with a capacity of two thousand one hundred seventy-six (2,176) liters (five hundred seventy-five (575) gallons) or more. Diesel fuel and kerosene are not considered to be motor vehicle fuels. The insignificant gasoline dispensing facility at this source has a tank with a capacity

less than 575 gallons. Therefore, it is not considered a gasoline dispensing facility for the purposes of this rule.

11. 326 IAC 8-2-9 (Miscellaneous Metal Coating)

Since the three (3) product paint booths (M751, M771 and M775) constructed in 1979 were modified to use higher VOC coatings after November 1, 1980 in Tippecanoe county, and each booth has the potential to emit more than twenty-five (25) tons per year of VOC, this rule was determined to be applicable in the amendment to OP 79-04-91-0411, issued on October 7, 1992.

Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), the Permittee shall not allow the discharge into the atmosphere VOC in excess of three and five-tenths (3.5) pounds of VOC per gallon of coating, excluding water, as delivered to the applicators at the three (3) product paint booths, identified as M751, M775 and M771.

Solvent sprayed from application equipment during cleanup or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.

Based on the MSDS submitted by the source and calculations made, the spray booth can comply with this requirement.

12. 326 IAC 8-6 (Organic Solvent Emission Limitations)

The VOC emissions from this source are regulated by 326 IAC 8-2-9. Therefore, the requirements of 326 IAC 8-6 are not applicable.

13. 326 IAC 9 (Carbon Monoxide Emission Limitations)

There is no emission limitation established in 326 IAC 9-2 for the types of facilities at this source. Therefore, the requirements of 326 IAC 9 are not applicable.

14. 326 IAC 10-4 (Nitrogen Oxides Budget Trading Program)

There are no large affected units or electricity generating units, with electricity for sale, at this source. Therefore, the requirements of 326 IAC 10-4 are not applicable.

15. 326 IAC 12 (New Source Performance Requirements)

This rule incorporates 40 CFR 60, by reference. The diesel fuel tank with a capacity of 150,000 gallons and the no. 2 fuel oil tank with a capacity of 400,000 gallons were both constructed in 1981 are subject to the requirements of 40 CFR Part 60, Subpart Ka, as stated in the Federal Rule Applicability section of this document. However, there are no requirements applicable to those units.

16. 326 IAC 20 (Hazardous Air Pollutants)

326 IAC 20-75 (Engine Test Cells/Stands) incorporates by reference 40 CFR 63, Subpart P. The twenty (20) 3500 engine test cells (M501 through M520), one (1) 3600 engine test cell (M522), two (2) packaging test cells (M525 and M526), one (1) power module for parallel testing (M547), one (1) dual fuel 3600 test stand (M523), and one (1) ABV Rock Test site (M528) are engine test cells/stands at a major source of HAPs. The affected source was constructed prior to May 4, 2002, and has not been reconstructed. Therefore, it is an existing affected source pursuant to 40 CFR 63.9290, Subpart P, National Emission Standards for Hazardous Air Pollutants for Engine Test Cells/Stands. Pursuant to 40 CFR 63.9290(b), existing affected sources do not have to meet the requirements of Subpart P and of Subpart A of Part 63. Therefore the requirements of 40 CFR 63, Subpart P, National Emission Standards for Hazardous Air Pollutants for Engine Test Cells/Stands, are not included in the permit.

### Compliance Determination and Monitoring Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with all applicable state and federal rules on a continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a continuous demonstration. When this occurs, IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, Compliance Determination Requirements are included in the permit. The Compliance determination requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

If the Compliance Determination Requirements are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in 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 determination requirements applicable to this source are as follows:

- (a) Compliance determination requirements for the three (3) boilers, identified as BY24010, BY24011, and BY24012 are as follows:

Compliance shall be determined utilizing one of the following options.

- (1) Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate that the sulfur dioxide emissions do not exceed five-tenths (0.5) pounds per million British thermal units heat input and 0.29% by:
- (A) Providing vendor analysis of fuel delivered, if accompanied by a vendor certification, or;
  - (B) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.
    - (i) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and
    - (ii) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.
- (2) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the three (3) boilers, identified as BY24010, BY24011, and BY24012, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

A determination of noncompliance pursuant to any of the methods specified in (A) or (B) above shall not be refuted by evidence of compliance pursuant to the other method.

- (b) Compliance determination requirements for the one (1) power module for parallel testing, one (1) dual fuel 3600 test stand, and five (5) peak shaving diesel generators are as follows:

Compliance shall be determined utilizing one of the following options.

- (1) Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate that the sulfur dioxide emissions do not exceed five-tenths (0.5) pounds per million British thermal units heat input by:
  - (A) Providing vendor analysis of fuel delivered, if accompanied by a vendor certification, or;
  - (B) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.
    - (i) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and
    - (ii) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.
- (2) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the one (1) packaging test cell, one (1) power module for parallel testing, and one (1) dual fuel 3600 test stand using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

A determination of noncompliance pursuant to any of the methods specified in (1) or (2) above shall not be refuted by evidence of compliance pursuant to the other method.

- (c) Compliance determination requirements for the three (3) product paint booths, identified as M751, M775 and M771 are as follows:

Compliance with the VOC content and usage limitations contained shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) by preparing or obtaining from the manufacturer the copies of the "as supplied" and "as applied" VOC data sheets. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

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

- (a) The three (3) boilers, identified as BY24010, BY24011, and BY24012 have applicable compliance monitoring conditions as specified below:

Visible emission notations of the three (3) boilers, identified as BY24010, BY24011, and BY24012, stack exhaust (B-1) shall be performed once per day during normal daylight operations when operating on fuel oil and exhausting to the atmosphere. A trained employee shall 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. If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

- (b) The three (3) product paint booths, identified as M751, M775 and M771 have applicable compliance monitoring conditions as specified below:

- (1) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the surface coating booth stacks (W-1, W-2 and W-3) while one or more of the booths are in operation. If a condition exists which should result in a response step, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.
  - (2) Monthly inspections shall be performed of the coating emissions from the stacks and the presence of overspray on the rooftops and the nearby ground. When there is a noticeable change in overspray emissions, or when evidence of overspray emissions is observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.
- (c) No Preventive Maintenance Plan or visible emission notations are required for the twenty-one (21) engine test cells, identified as M501 - M520 and M522, two (2) packaging test cells, identified as M525 and M526, one (1) power module for parallel testing, identified as M547, one (1) dual fuel 3600 test stand, identified as M523, and one (1) ABV Rock Test site, identified as M528, to be consistent with the existing Part 70 Operating Permit. During the review for T 157-7594-00044, issued on July 13, 1999, IDEM, OAQ, determined, that the test cells are self-monitoring facilities.
- (d) The five (5) peak shaving diesel generators and six (6) trailer mounted generators have applicable compliance monitoring conditions as specified below:
- Visible emission notations of the five (5) peak shaving diesel generators and six (6) trailer mounted generators stack exhausts shall be performed once per day during normal daylight operations when exhausting to the atmosphere. A trained employee shall 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. If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

Conclusion and Recommendation
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The construction and operation of this proposed modification and the operation of the source shall be subject to the conditions of the attached proposed Part 70 Renewal No. T 157-18082-00044. The staff recommends to the Commissioner that this Part 70 Permit Renewal be approved.

**Appendix A: Emissions Calculations  
Natural Gas Combustion Only  
MM BTU/HR <100**

**Company Name: Caterpillar, Inc.  
Address City IN Zip: 3701 State Road 26 East, Lafayette, IN 47905  
Permit No.: T 157-18082-00044  
Plt ID: 157-00044  
Reviewer: CarrieAnn Paukowits  
Application Date: September 29, 2003**

**Three (3) Boilers**

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.90	7.60	0.600	100	5.50	84.0
				**see below		

\*PM emission factor is filterable PM only. PM-10 emission factor is filterable and condensable PM-10 combined.

\*\*Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Equipment	Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr	Potential Emission in tons/yr					
			PM*	PM10*	SO2	NOx	VOC	CO
BY24010	83.30	729.708	0.693	2.773	0.219	36.485	2.007	30.648
BY24011	83.30	729.708	0.693	2.773	0.219	36.485	2.007	30.648
BY24012	83.30	729.708	0.693	2.773	0.219	36.485	2.007	30.648
<b>Total</b>	<b>249.90</b>	<b>2189</b>	<b>2.08</b>	<b>8.32</b>	<b>0.657</b>	<b>109</b>	<b>6.02</b>	<b>91.9</b>

**HAPs - Organics**

Emission Factor in lb/MMcf	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
	0.0021	0.0012	0.0750	1.8000	0.0034
Potential Emission in tons/yr	0.002	0.001	0.082	1.97	0.004

**HAPs - Metals**

Emission Factor in lb/MMcf	Lead	Cadmium	Chromium	Manganese	Nickel	Total HAPs
	0.0005	0.0011	0.0014	0.0004	0.0021	
Potential Emission in tons/yr	0.0005	0.001	0.002	0.0004	0.002	<b>2.07</b>

**Methodology**

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

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, 1-01-006-02, 1-03-006-02, and 1-03-006-03

(SUPPLEMENT D 3/98)

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

The five highest organic and metal HAPs emission factors are provided above.

Additional HAPs emission factors are available in AP-42, Chapter 1.4.

**Appendix A: Emissions Calculations  
Fuel Oil Combustion  
MM BTU/HR <100**

**Company Name: Caterpillar, Inc.  
Address City IN Zip: 3701 State Road 26 East, Lafayette, IN 47905  
Permit No.: T 157-18082-00044  
Plt ID: 157-00044  
Reviewer: CarrieAnn Paukowits  
Application Date: September 29, 2003**

S = Weight % Sulfur

0.500

**Three (3) Boilers**

Pollutant

Emission Factor in lb/kgal	PM* 2.00	PM10* 2.00	SO2 71.0 (142.0S)	NOx 20.0 **see below	VOC 0.340	CO 5.00
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Equipment	Heat Input Capacity MMBtu/hr	Potential Throughput kgals/yr	Potential Emission in tons/yr					
			PM*	PM10*	SO2	NOx	VOC	CO
BY24010	83.30	5212	5.212	5.212	185.033	52.122	0.886	13.031
BY24011	83.30	5212	5.212	5.212	185.033	52.122	0.886	13.031
BY24012	83.30	5212	5.212	5.212	185.033	52.122	0.886	13.031
<b>Total</b>	<b>249.90</b>	<b>15637</b>	<b>15.6</b>	<b>15.6</b>	<b>555</b>	<b>156</b>	<b>2.66</b>	<b>39.1</b>

HAPs - Organics

	HAPs - Metals				
	Arsenic	Beryllium	Cadmium	Chromium	Lead
Emission Factor in lb/mmBtu	0.000004	0.000003	0.000003	0.000003	0.000009
Potential Emission in tons/yr	0.004	0.003	0.003	0.003	0.010

HAPs - Metals (continued)

	Mercury	Manganese	Nickel	Selenium	Total HAPs
	Emission Factor in lb/mmBtu	0.000003	0.000006	0.000003	0.00002
Potential Emission in tons/yr	0.003	0.007	0.003	0.016	<b>0.054</b>

**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 1.3-1, 1.3-2, and 1.3-3 (SCC 1-03-005-01/02/03) Supplement E 9/98 (see erata file)

\*PM emission factor is filterable PM only. Condensable PM emission factor is 1.3 lb/kgal.

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

No data was available in AP-42 for organic HAPs.

HAP Emissions (tons/year) = Throughput (mmBtu/hr)\*Emission Factor (lb/mmBtu)\*8,760 hrs/yr / 2,000 lb/ton

**Appendix A: Emissions Calculations**  
**Natural Gas Combustion Only**  
**10 < MM BTU/HR <100**  
**Reciprocating Engines**

**Company Name:** Caterpillar, Inc.  
**Address City IN Zip:** 3701 State Road 26 East, Lafayette, IN 47905  
**Permit No.:** T 157-18082-00044  
**Pit ID:** 157-00044  
**Reviewer:** CarrieAnn Paukowitz  
**Application Date:** September 29, 2003

Twenty-one (21) Engine Test Cells

**M501-M520, and M522**

Heat Input Capacity  
MMBtu/hr

Potential Throughput  
MMCF/yr

155.5

1362

Emission Factor in lb/MMBtu	Pollutant					
	PM	PM10	SO2	NOx	VOC	CO
	0.00008	0.010	0.0006	4.08	0.118	0.317
Potential Emission in tons/yr	0.053	6.80	0.400	2779	80.4	216

One (1) Packaging Test Cell

**M525**

Heat Input Capacity  
MMBtu/hr

Potential Throughput  
MMCF/yr

13.7

120

Emission Factor in lb/MMBtu	Pollutant					
	PM	PM10	SO2	NOx	VOC	CO
	0.00008	0.010	0.0006	4.08	0.118	0.317
Potential Emission in tons/yr	0.005	0.599	0.035	245	7.08	19.0

One (1) Proposed Packaging Test Cell

**M526**

Heat Input Capacity  
MMBtu/hr

Potential Throughput  
MMCF/yr

13.7

120

Emission Factor in lb/MMBtu	Pollutant					
	PM	PM10	SO2	NOx	VOC	CO
	0.00008	0.010	0.0006	4.08	0.118	0.317
Potential Emission in tons/yr	0.005	0.599	0.035	245	7.08	19.0

Dual Fuel Test Stand

**M523**

Heat Input Capacity  
MMBtu/hr

Potential Throughput  
MMCF/yr

11.0

96.4

Emission Factor in lb/MMCF	Pollutant					
	PM	PM10	SO2	NOx	VOC	CO
	14.0	14.0	0.0	300.0	239.0	576.0
Potential Emission in tons/yr	0.675	0.675	0.00	14.5	11.5	27.8

Power Module

**M547**

Heat Input Capacity  
MMBtu/hr

Potential Throughput  
MMCF/yr

16.9

148.0

Emission Factor in lb/MMCF	Pollutant					
	PM	PM10	SO2	NOx	VOC	CO
	14.0	14.0	0.0	535.0	630.0	368.0
Potential Emission in tons/yr	1.04	1.04	0.00	39.6	46.6	27.2

ABV Rock Test site

**M528**

Heat Input Capacity  
MMBtu/hr

Potential Throughput  
MMCF/yr

8.5

74.5

Emission Factor in lb/MMCF	Pollutant					
	PM	PM10	SO2	NOx	VOC	CO
	20.1	20.1	0.6	2840	116	399
Potential Emission in tons/yr	0.748	0.748	0.022	106	4.32	14.9

HAP	Emission Factor Two stroke lean burn (lb/MMBtu)	Emission Factor Four stroke lean burn (lb/MMBtu)	Emission Factor Four stroke rich burn (lb/MMBtu)	Worst Case Emission Factor (lb/MMBtu)	Potential to Emit (tons/yr)
1,1,2,2-Tetrachloroethane	6.63E-05	4.00E-05	2.53E-05	6.63E-05	5.57E-02
1,1,2-Trichloroethane	5.27E-05	3.18E-05	1.53E-05	5.27E-05	4.43E-02
1,3-Butadiene	8.20E-04	2.67E-04	6.63E-04	8.20E-04	6.89E-01
1,3-Dichloropropene	4.38E-05	2.64E-05	1.27E-05	4.38E-05	3.68E-02
2,2,4-Trimethylpentane	8.46E-04	2.50E-04	0.00E+00	8.46E-04	7.11E-01
Acetaldehyde	7.76E-03	8.36E-03	2.79E-03	8.36E-03	7.03E+00
Acrolein	7.76E-03	5.14E-03	2.63E-03	7.76E-03	6.54E+00
Benzene	1.94E-03	4.40E-04	1.58E-03	1.94E-03	1.63E+00
Biphenyl	3.95E-06	2.12E-04	0.00E+00	2.12E-04	1.78E-01
Carbon Tetrachloride	6.07E-05	3.67E-05	1.77E-05	6.07E-05	5.10E-02
Chlorobenzene	4.44E-05	3.04E-05	1.29E-05	4.44E-05	3.73E-02
Chloroethane	0.00E+00	1.87E-06	0.00E+00	1.87E-06	1.57E-03
Chloroform	4.71E-05	2.85E-05	1.37E-05	4.71E-05	3.96E-02
Ethylbenzene	1.08E-04	3.97E-05	2.48E-05	1.08E-04	9.08E-02
Ethylene Dibromide	7.34E-05	4.43E-05	2.13E-05	7.34E-05	6.17E-02
Formaldehyde	5.52E-02	5.28E-02	2.05E-02	5.52E-02	4.64E+01
Methanol	2.48E-03	2.50E-03	3.06E-03	3.06E-03	2.57E+00
Methylene Chloride	1.47E-04	2.00E-05	4.12E-05	1.47E-04	1.24E-01
n-Hexane	4.45E-04	1.11E-05	0.00E+00	1.11E-05	9.33E-01
Naphthalene	9.63E-05	7.44E-05	9.71E-05	9.71E-05	8.16E-02
Phenol	4.21E-05	2.40E-05	0.00E+00	4.21E-05	3.54E-02
Styrene	5.48E-05	2.36E-05	1.19E-05	5.48E-05	4.61E-02
Toluene	9.63E-04	4.08E-04	5.58E-04	9.63E-04	8.09E-01
Vinyl Chloride	2.47E-05	1.49E-05	7.18E-06	2.47E-05	2.08E-02
Xylene	2.68E-04	1.84E-04	1.95E-04	2.68E-04	2.25E-01
<b>Total HAPs:</b>					<b>68.4</b>

**Methodology**

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Emission factors for M501-M520, M522, M525 and M526 are the AP-42, Table 3.2-2, emission factors for 4-stroke lean burn engines.

Emission Factors for the ABV Rock Test site are from FIRE 6.25.

Emission factors for all other engines are based on an engine engineering analysis by the applicant and approved in T 157-7594-00044.

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8.760 hrs/yr x 1 MMCF/1,000 MMBtu

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

Company Name: Caterpillar, Inc.  
 Address City IN Zip: 3701 State Road 26 East, Lafayette, IN 47905  
 Permit No.: T 157-18082-00044  
 P# ID: 157-00044  
 Reviewer: CarrieAnn Paukowitz  
 Application Date: September 29, 2003

Twenty (20) 3500 Engine Test Cells

**M501-M520**  
 Heat Input Capacity Potential Throughput  
 MM Btu/hr kgals/year

152.0 9511

Emission Factor in lb/1000 gals	Pollutant					
	PM <sup>10</sup>	PM10 <sup>0</sup>	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO
	7	7	30.0	472.0	15.0	82.00
Potential Emission in tons/yr	33.3	33.3	142.7	2244.6	71.3	389.9

One (1) 3600 Engine Test Cell

**M522**  
 Heat Input Capacity Potential Throughput  
 MM Btu/hr kgals/year

7.6 476

Emission Factor in lb/1000 gals	Pollutant					
	PM <sup>10</sup>	PM10 <sup>0</sup>	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO
	7	7	30.0	472.0	15.0	82.00
Potential Emission in tons/yr	1.7	1.7	7.1	112.2	3.6	19.5

One (1) Packaging Test Cell

**M525**  
 Heat Input Capacity Potential Throughput  
 MM Btu/hr kgals/year

20.3 1270

Emission Factor in lb/1000 gals	Pollutant					
	PM <sup>10</sup>	PM10 <sup>0</sup>	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO
	7	7	30.0	472.0	15.0	82.00
Potential Emission in tons/yr	4.4	4.4	19.1	299.8	9.5	52.1

One (1) Proposed Packaging Test Cell

**M526**  
 Heat Input Capacity Potential Throughput  
 MM Btu/hr kgals/year

20.3 1270

Emission Factor in lb/1000 gals	Pollutant					
	PM <sup>10</sup>	PM10 <sup>0</sup>	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO
	7	7	30.0	472.0	15.0	82.00
Potential Emission in tons/yr	4.4	4.4	19.1	299.8	9.5	52.1

One (1) Power Module for Parallel Testing

**M523**  
 Heat Input Capacity Potential Throughput S<sub>1</sub> = 0.5 = WEIGHT % SULFUR  
 MM Btu/hr kgals/year

16.9 1057

Emission Factor in lb/MMBtu	Pollutant					
	PM <sup>10</sup>	PM10 <sup>0</sup>	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO
	0.1	0.0573	0.5 (1.01S)	3.2 **see below	0.09	0.85
Potential Emission in tons/yr	7.4	4.2	37.4	236.9	6.7	62.9

One (1) Dual Fuel 3600 Test Stand

**M547**  
 Heat Input Capacity Potential Throughput S<sub>1</sub> = 0.5 = WEIGHT % SULFUR  
 MM Btu/hr kgals/year

15.3 957

Emission Factor in lb/MMBtu	Pollutant					
	PM <sup>10</sup>	PM10 <sup>0</sup>	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO
	0.1	0.0573	0.5 (1.01S)	3.2 **see below	0.09	0.85
Potential Emission in tons/yr	6.7	3.8	33.8	214.4	6.0	57.0

One (1) ABV Rock Test Site

**M528**  
 Heat Input Capacity Potential Throughput S<sub>1</sub> = 0.5 = WEIGHT % SULFUR  
 MM Btu/hr kgals/year

8.5 532

Emission Factor in lb/MMBtu	Pollutant					
	PM <sup>10</sup>	PM10 <sup>0</sup>	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO
	0.1	0.0573	0.5 (1.01S)	3.2 **see below	0.090	0.85
Potential Emission in tons/yr	3.7	2.1	18.8	119.1	3.4	31.6

Five (5) Peak Shaving Diesel Generators

Heat Input Capacity Potential Throughput S<sub>1</sub> = 0.5 = WEIGHT % SULFUR  
 MM Btu/hr kgals/year

55.4 3466

Emission Factor in lb/MMBtu	Pollutant					
	PM <sup>10</sup>	PM10 <sup>0</sup>	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO
	0.1	0.0573	0.5 (1.01S)	3.2 **see below	0.1	0.85
Potential Emission in tons/yr	24.3	13.9	122.5	776.5	21.8	206.3

Trailer Mounted Emergency Generator Sets

Heat Input Capacity Potential Throughput S<sub>1</sub> = 0.5 = WEIGHT % SULFUR  
 MM Btu/hr kgals/year

102.8 6432

Emission Factor in lb/MMBtu	Pollutant					
	PM <sup>10</sup>	PM10 <sup>0</sup>	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO
	0.1	0.0573	0.5 (1.01S)	3.2 **see below	0.1	0.85
Potential Emission in tons/yr	2.57	1.47	13.0	82.2	2.31	21.8

500 Hours per year for emergency generators

\*\*NO<sub>x</sub> emissions: uncontrolled = 3.2 lb/MMBtu, controlled with ignition timing retard = 1.9 lb/MMBtu

**Methodology**

Potential Throughput (hp-hr/yr) = hp \* 8760 hr/yr  
 Emission factors for M501-M520, M522, M525 and M526 are the worst-case of the Tier 1, 2 and 4 EPA Standards and the non-rated emission factors developed by the source and supplied to their buyers in the Specification Sheets. Measurement procedures were consistent with EPA CFR 40 Part 89, Subparts D and E. See Page 16.  
 Emission Factors are from AP 42 (Supplement B 10/96) Table 3.4-1 and Table 3.4-2  
 1 hp-hr = 7000 Btu, AP42 (Supplement B 10/96), Table 3.3-1, Footnote a.  
 Emission (tons/yr) = [Heat Input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] \* 8760 hr/yr / (2,000 lb/ton)  
 Emission (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)  
 \*No information was given regarding which method was used to determine the PM emission factor or whether condensable PM is included. The PM10 emission factor is filterable and condensable PM10 combined.

**Appendix A: Federal Potential Emissions Calculations  
VOC and Particulate  
From Surface Coating Operations**

**Company Name: Caterpillar, Inc.  
Address City IN Zip: 3701 State Road 26 East, Lafayette, IN 47905  
Permit No.: T 157-18082-00044  
Plt ID: 157-00044  
Reviewer: CarrieAnn Paukowits  
Application Date: September 29, 2003**

Material	Density (lb/gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Vol (solids)	Gal of Mat (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential tons per year	lb VOC /gal solids	Transfer Efficiency
<b>M751</b>																
Urethane Paint	10.92	31.80%	0.0%	31.8%	0.0%	68.20%	0.10300	15.000	3.47	3.47	5.37	128.76	23.50	12.60	5.09	75%
Solvent	7.04	100.00%	0.0%	100.0%	0.0%	0.00%	0.10300	15.000	7.04	7.04	10.88	261.04	47.64	0.00	n/a	75%
<b>M771</b>																
Urethane Paint	10.92	31.80%	0.0%	31.8%	0.0%	68.20%	2.31000	5.250	3.47	3.47	42.11	1010.72	184.46	98.90	0.00	75%
Solvent	7.04	100.00%	0.0%	100.0%	0.0%	0.00%	0.19000	5.250	7.04	7.04	7.02	168.54	30.76	0.00	n/a	75%
<b>M775</b>																
Urethane Paint	10.92	31.80%	0.0%	31.8%	0.0%	68.20%	0.75000	2.090	3.47	3.47	5.44	130.64	23.84	12.78	5.09	75%
							(gal/shift)	(shifts/hr)								
S-0372 Solvent (cleanup only)	7.04	100.00%	0.0%	100.0%	0.0%	0.00%	1.06000	0.167	7.04	7.04	1.24	29.85	5.45	0.00	n/a	75%

State Potential Emissions

Add worst case coating to all solvents

Before controls:	72.1	1730	316	124
Control Efficiency:	0.00%	0.00%	0.00%	98.00%
After controls:	72.1	1730	316	2.49

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) \* Weight % Organics) / (1-Volume % water)  
 Pounds of VOC per Gallon Coating = (Density (lb/gal) \* Weight % Organics)  
 Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr)  
 Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (24 hr/day)  
 Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (8760 hr/yr) \* (1 ton/2000 lbs)  
 Particulate Potential Tons per Year = (units/hour) \* (gal/unit) \* (lbs/gal) \* (1- Weight % Volatiles) \* (1-Transfer efficiency) \*(8760 hrs/yr) \*(1 ton/2000 lbs)  
 Pounds VOC per Gallon of Solids = (Density (lbs/gal) \* Weight % organics) / (Volume % solids)  
 Total = Worst Coating + Sum of all solvents used

**Appendix A: Emission Calculations**

**HAP Emission Calculations**

**Company Name: Caterpillar, Inc.**  
**Address City IN Zip: 3701 State Road 26 East, Lafayette, IN 47905**  
**Permit No.: T 157-18082-00044**  
**Pit ID: 157-00044**  
**Reviewer: CarrieAnn Paukowits**  
**Application Date: September 29, 2003**

Material	Density (Lb/Gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Ethyl Benzene	Weight % Glycol Ethers	Weight % Xylene	Ethyl Benzene Emissions (ton/yr)	Glycol Ether Emissions (ton/yr)	Xylene Emissions (ton/yr)	Total Emissions (ton/yr)
<b>M751</b>										
Urethane Paint	10.92	0.10300	15.000	5.00%	5.00%	10.00%	3.69	3.69	7.39	14.78
Solvent	7.04	0.10300	15.000	0.00%	0.00%	5.00%	0.00	0.00	2.38	2.38
<b>M771</b>										
Urethane Paint	10.92	2.31000	5.250	5.00%	5.00%	10.00%	29.00	29.00	58.01	116.01
Solvent	7.04	0.19000	5.250	0.00%	0.00%	5.00%	0.00	0.00	1.54	1.54
<b>M775</b>										
Urethane Paint	10.92	0.75000	2.090	5.00%	5.00%	10.00%	3.75	3.75	7.50	14.99
S-0372 Solvent (cleanup only)	7.04	1.06000	0.167	0.00%	0.00%	5.00%	0.00	0.00	0.27	0.27

Total State Potential Emissions 36.4      36.4      77.1      150

**METHODOLOGY**

HAPS emission rate (tons/yr) = Density (lb/gal) \* Gal of Material (gal/unit) \* Maximum (unit/hr) \* Weight % HAP \* 8760 hrs/yr \* 1 ton/2000 lbs

**Appendix A: Emissions Calculations  
Fuel Oil Combustion  
MM BTU/HR <100  
Limited Emissions from the Boilers**

**Company Name: Caterpillar, Inc.  
Address City IN Zip: 3701 State Road 26 East, Lafayette, IN 47905  
Permit No.: T 157-18082-00044  
Plt ID: 157-00044  
Reviewer: CarrieAnn Paukowits  
Application Date: September 29, 2003**

S = Weight % Sulfur

0.290

**Three (3) Boilers**

Pollutant

Emission Factor in lb/kgal	PM* 2.00	PM10* 2.00	SO2 41.2 (142.0S)	NOx 20.0 **see below	VOC 0.340	CO 5.00
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Equipment	Heat Input Capacity MMBtu/hr	Potential Throughput kgals/yr	Potential Emission in tons/yr					
			PM*	PM10*	SO2	NOx	VOC	CO
<b>Total</b>	<b>166.60</b>	<b>11917</b>	11.9	11.9	245	119	2.03	29.8

HAPs - Organics

	HAPs - Metals				
	Arsenic	Beryllium	Cadmium	Chromium	Lead
Emission Factor in lb/mmBtu	0.000004	0.000003	0.000003	0.000003	0.000009
Potential Emission in tons/yr	0.003	0.002	0.002	0.002	0.007

HAPs - Metals (continued)

	Mercury	Manganese	Nickel	Selenium	Total HAPs
	Emission Factor in lb/mmBtu	0.000003	0.000006	0.000003	0.00002
Potential Emission in tons/yr	0.002	0.004	0.002	0.011	<b>0.036</b>

**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 1.3-1, 1.3-2, and 1.3-3 (SCC 1-03-005-01/02/03) Supplement E 9/98 (see erata file)

\*PM emission factor is filterable PM only. Condensable PM emission factor is 1.3 lb/kgal.

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

No data was available in AP-42 for organic HAPs.

HAP Emissions (tons/year) = Throughput (mmBtu/hr)\*Emission Factor (lb/mmBtu)\*8,760 hrs/yr / 2,000 lb/ton

**Appendix A: Equivalency Determination  
Fuel Usage Limitations**

**Company Name:** Caterpillar, Inc.  
**Address City IN Zip:** 3701 State Road 26 East, Lafayette, IN 47905  
**Permit No.:** T 157-18082-00044  
**Plt ID:** 157-00044  
**Reviewer:** CarrieAnn Paukowits  
**Application Date:** September 29, 2003

<b>(M501-M520, M522, M525, M526)</b>					
<b>NOx</b>					
Emission Unit	fuel	equivalency of 1 unit to 1,000 gallons	equivalent throughput (unit indicated)	NOx factor (lb/unit)	emissions (tons/yr)
test cells (M501-M520, M522, M525, M526)	diesel	1	2400 thousand gallons	472	566
test cells (M501-M520, M522, M525, M526)	nat. gas	8.65	277 MMcf	4080	566
<b>CO</b>					
lb/unit = lb/mmBtu x 1000 MMBtu/1 mmcf					
Emission Unit	fuel	equivalency of 1 unit to 1,000 gallons	equivalent throughput (unit indicated)	CO factor (lb/unit)	emissions (tons/yr)
test cells (M501-M520, M522, M525, M526)	diesel	1	2439 thousand gallons	82.0	100
test cells (M501-M520, M522, M525, M526)	nat. gas	3.80	631 MMcf	317	100
<b>Permit Limit</b>					
lb/unit = lb/mmBtu x 1000 MMBtu/1 mmcf					
Emission Unit	fuel		Limited throughput (unit indicated)	Nox Emissions (tons/yr)	CO emissions (tons/yr)
test cells (M501-M520, M522, M525, M526)	diesel		2400 thousand gallons	566	98.4
test cells (M501-M520, M522, M525, M526)	nat. gas		277 MMcf	566	44.0
<b>Power Module</b>					
<b>NOx</b>					
Emission Unit	fuel	equivalency of 1 unit to 1,000 gallons	equivalent throughput (unit indicated)	NOx factor (lb/unit)	emissions (tons/yr)
one (1) power module	diesel	1	166 thousand gallons	448	37.3
one (1) power module	nat. gas	1.14	146 MMcf	535	39.0
<b>VOC</b>					
Emission Unit	fuel	equivalency of 1 unit to MMcf	equivalent throughput (unit indicated)	VOC factor (lb/unit)	emissions (tons/yr)
one (1) power module	nat. gas	1	76.1 MMcf	630	24.0
one (1) power module	diesel	0.051	1495 kilogallons	32.1	24.0
<b>Permit Limit</b>					
Emission Unit	fuel		Limited throughput (unit indicated)	Nox Emissions (tons/yr)	VOC emissions (tons/yr)
one (1) power module	diesel		166.3 thousand gallons	37.3	2.67
one (1) power module	nat. gas		76.1 MMcf	20.4	24.0
<b>Dual Fuel Test Stand</b>					
Emission Unit	fuel	equivalency of 1 unit to 1,000 gallons	equivalent throughput (unit indicated)	NOx factor (lb/unit)	emissions (tons/yr)
one (1) dual fuel test stand	diesel	1	166 thousand gallons	448	37.3
one (1) dual fuel test stand	nat. gas	0.64	260 MMcf	300	39.0
<b>ABV Rock Test Site</b>					
Emission Unit	fuel	equivalency of 1 unit to 1,000 gallons	equivalent throughput (unit indicated)	NOx factor (lb/unit)	emissions (tons/yr)
one (1) ABV Rock Test Site	diesel	1	166 thousand gallons	448	37.3
one (1) ABV Rock Test Site	nat. gas	5.97	27.9 MMcf	2840	39.55
<b>Peak Shaving</b>					
<b>NOx</b>					
Emission Unit	fuel		equivalent throughput (unit indicated)	Nox factor (lb/unit)	emissions (tons/yr)
five (5) peak shaving	diesel		166.0 thousand gallons	448	37.2
<b>SO2</b>					
Emission Unit	fuel		equivalent throughput (unit indicated)	SO2 factor (lb/unit)	emissions (tons/yr)
five (5) peak shaving	diesel		1128.7 thousand gallons	70.7	39.9
<b>Permit Limit</b>					
Emission Unit	fuel		Limited throughput (unit indicated)	Nox Emissions (tons/yr)	SO2 emissions (tons/yr)
five (5) peak shaving	diesel		166 thousand gallons	37.2	5.87
<b>Trailer mounted</b>					
Emission Unit	fuel		equivalent throughput less than (unit indicated)	Nox factor (lb/unit)	emissions (tons/yr)
Six (6) trailer mounted generators	diesel		114.4 thousand gallons	437.0112	25.0

**Methodology**

The limited throughputs and equivalents are based on the permit limits.  
 Permit limit is the minimum throughput for each fuel based on the limits.  
 The Permit Limit emissions are the emissions based on the throughput limit and the emission factor for that pollutant.

**Appendix A: Emissions Calculations**  
**Natural Gas Combustion Only**  
**10 < MM BTU/HR <100**  
**Reciprocating Engines**  
**Limited Potential to Emit**

**Company Name:** Caterpillar, Inc.  
**Address City IN Zip:** 3701 State Road 26 East, Lafayette, IN 47905  
**Permit No.:** T 157-18082-00044  
**Plt ID:** 157-00044  
**Reviewer:** CarrieAnn Paukowits  
**Application Date:** September 29, 2003

Twenty-one (21) Engine Test Cells and Two (2) Packaging Test Cells

**M501-M520, M522, M525 and M526**

Limited Heat Input Capacity MMBtu/yr Limited Throughput MMCF/yr

277451

277

Emission Factor in lb/MMBtu	Pollutant					
	PM	PM10	SO2	NOx	VOC	CO
0.00008	0.010	0.0006	4.08	0.118	0.317	
Potential Emission in tons/yr	0.011	1.385	0.082	566	16.4	44.0

Dual Fuel Test Stand

**M523**

Limited Heat Input Capacity MMBtu/yr Limited Throughput MMCF/yr

96360

96.4

Emission Factor in lb/MMCF	Pollutant					
	PM	PM10	SO2	NOx	VOC	CO
14.0	14.0	0.0	300.0	239.0	576.0	
Potential Emission in tons/yr	0.675	0.675	0.00	14.5	11.5	27.8

Power Module

**M547**

Limited Heat Input Capacity MMBtu/yr Limited Throughput MMCF/yr

76100

76.1

Emission Factor in lb/MMCF	Pollutant					
	PM	PM10	SO2	NOx	VOC	CO
14.0	14.0	0.0	535.0	630.0	368.0	
Potential Emission in tons/yr	0.533	0.533	0.00	20.4	24.0	14.0

ABV Rock Test site

**M528**

Limited Heat Input Capacity MMBtu/yr Limited Throughput MMCF/yr

27852

27.9

Emission Factor in lb/MMCF	Pollutant					
	PM	PM10	SO2	NOx	VOC	CO
20.1	20.1	0.6	2840	116	399	
Potential Emission in tons/yr	0.280	0.280	0.008	39.6	1.62	5.56

HAP	Emission Factor Two stroke lean burn (lb/MMBtu)	Emission Factor Four stroke lean burn (lb/MMBtu)	Emission Factor Four stroke rich burn (lb/MMBtu)	Worst Case Emission Factor (lb/MMBtu)	Potential to Emit (tons/yr)
1,1,2,2-Tetrachloroethane	6.63E-05	4.00E-05	2.53E-05	6.63E-05	1.58E-02
1,1,2-Trichloroethane	5.27E-05	3.18E-05	1.53E-05	5.27E-05	1.26E-02
1,3-Butadiene	8.20E-04	2.67E-04	6.63E-04	8.20E-04	1.96E-01
1,3-Dichloropropene	4.38E-05	2.64E-05	1.27E-05	4.38E-05	1.05E-02
2,2,4-Trimethylpentane	8.46E-04	2.50E-04	0.00E+00	8.46E-04	2.02E-01
Acetaldehyde	7.76E-03	8.36E-03	2.79E-03	8.36E-03	2.00E+00
Acrolein	7.78E-03	5.14E-03	2.63E-03	7.78E-03	1.86E+00
Benzene	1.94E-03	4.40E-04	1.58E-03	1.94E-03	4.63E-01
Biphenyl	3.95E-06	2.12E-04	0.00E+00	2.12E-04	5.06E-02
Carbon Tetrachloride	6.07E-05	3.67E-05	1.77E-05	6.07E-05	1.45E-02
Chlorobenzene	4.44E-05	3.04E-05	1.29E-05	4.44E-05	1.06E-02
Chloroethane	0.00E+00	1.87E-06	0.00E+00	1.87E-06	4.47E-04
Chloroform	4.71E-05	2.85E-05	1.37E-05	4.71E-05	1.13E-02
Ethylbenzene	1.08E-04	3.97E-05	2.48E-05	1.08E-04	2.58E-02
Ethylene Dibromide	7.34E-05	4.43E-05	2.13E-05	7.34E-05	1.75E-02
Formaldehyde	5.52E-02	5.28E-02	2.05E-02	5.52E-02	1.32E+01
Methanol	2.48E-03	2.50E-03	3.06E-03	3.06E-03	7.31E-01
Methylene Chloride	1.47E-04	2.00E-05	4.12E-05	1.47E-04	3.51E-02
n-Hexane	4.45E-04	1.11E-03	0.00E+00	1.11E-03	2.65E-01
Naphthalene	9.63E-05	7.44E-05	9.71E-05	9.71E-05	2.32E-02
Phenol	4.21E-05	2.40E-05	0.00E+00	4.21E-05	1.01E-02
Styrene	5.48E-05	2.36E-05	1.19E-05	5.48E-05	1.31E-02
Toluene	9.63E-04	4.08E-04	5.58E-04	9.63E-04	2.30E-01
Vinyl Chloride	2.47E-05	1.49E-05	7.18E-06	2.47E-05	5.90E-03
Xylene	2.68E-04	1.84E-04	1.95E-04	2.68E-04	6.40E-02
<b>Total HAPs:</b>					<b>19.45</b>

**Methodology**

MMBtu = 1,000,000 Btu  
MMCF = 1,000,000 Cubic Feet of Gas  
Emission factors for M501-M520 and M522 are the AP-42, Table 3.2-2, emission factors for 4-stroke lean burn engines.  
Emission Factors for the ABV Rock Test site are from FIRE 6.25.  
Emission Factors for all other engines are based on an engine engineering analysis by the applicant and approved in T 157-7594-00044.  
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu  
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

**Appendix A: Emission Calculations**  
**Internal Combustion Engines - Diesel Fuel**  
**Large Engines (>600 HP)**  
**Limited Potential to Emit**

**Company Name:** Caterpillar, Inc.  
**Address City IN Zip:** 3701 State Road 26 East, Lafayette, IN 47905  
**Permit No.:** T 157-18082-00044  
**Plt ID:** 157-00044  
**Reviewer:** CarrieAnn Paukowitz  
**Application Date:** September 29, 2003

Twenty-one (21) Engine Test Cells and Two (2) Packaging Test Cells  
**M501-M520, M522, M525 and M526**

Heat Input Capacity      Potential Throughput  
MM Btu/yr                      kgals/year

336000                      2400

Emission Factor in lb/1000 gals	Pollutant					
	PM* 7	PM10* 7	SO2 30.0 (1.01S)	NOx 472.0	VOC 15.0	CO 82.00
Potential Emission in tons/yr	8.40	8.40	36.0	566	18.0	98.4

One (1) Power Module for Parallel Testing

**M547**  
Heat Input Capacity      Potential Throughput      S= 0.5 = WEIGHT % SULFUR  
MM Btu/yr                      kgals/year

23282                      166

Emission Factor in lb/MMBtu	Pollutant					
	PM* 0.1	PM10* 0.0573	SO2 0.5 (1.01S)	NOx 3.2 **see below	VOC 0.09	CO 0.85
Potential Emission in tons/yr	1.16	0.667	5.88	37.3	1.05	9.89

One (1) Dual Fuel 3600 Test Stand

**M523**  
Heat Input Capacity      Potential Throughput      S= 0.5 = WEIGHT % SULFUR  
MM Btu/yr                      kgals/year

23282                      166

Emission Factor in lb/MMBtu	Pollutant					
	PM* 0.1	PM10* 0.0573	SO2 0.5 (1.01S)	NOx 3.2 **see below	VOC 0.09	CO 0.85
Potential Emission in tons/yr	1.16	0.667	5.88	37.3	1.05	9.89

One (1) ABV Rock Test Site

**M528**  
Heat Input Capacity      Potential Throughput      S= 0.5 = WEIGHT % SULFUR  
MM Btu/yr                      kgals/year

23282                      166

Emission Factor in lb/MMBtu	Pollutant					
	PM* 0.1	PM10* 0.0573	SO2 0.5 (1.01S)	NOx 3.2 **see below	VOC 0.090	CO 0.85
Potential Emission in tons/yr	1.16	0.667	5.88	37.3	1.05	9.89

Five (5) Peak Shaving Diesel Generators

Heat Input Capacity      Potential Throughput      S= 0.5 = WEIGHT % SULFUR  
MM Btu/yr                      kgals/year

23240                      166

Emission Factor in lb/MMBtu	Pollutant					
	PM* 0.1	PM10* 0.0573	SO2 0.5 (1.01S)	NOx 3.2 **see below	VOC 0.1	CO 0.85
Potential Emission in tons/yr	1.16	0.666	5.87	37.2	1.05	9.88

Trailer Mounted Emergency Generator Sets

Heat Input Capacity      Potential Throughput      S= 0.5 = WEIGHT % SULFUR  
MM Btu/yr                      kgals/year

16019                      114

Emission Factor in lb/MMBtu	Pollutant					
	PM* 0.1	PM10* 0.0573	SO2 0.5 (1.01S)	NOx 3.2 **see below	VOC 0.1	CO 0.85
Potential Emission in tons/yr	0.801	0.459	4.04	25.6	0.721	6.81

500 Hours per year for emergency generators

\*\*NOx emissions: uncontrolled = 3.2 lb/MMBtu, controlled with ignition timing retard = 1.9 lb/MMBtu

**Methodology**

Potential Throughput (hp-hr/yr) = hp \* 8760 hr/yr  
Emission factors for M501-M520, M522, M525 and M526 are the worst-case of the Tier 1, 2 and 4 EPA Standards and the non-rated emission factors developed by the source and supplied to their buyers in the Specification Sheets. Measurement procedures were consistent with EPA CFR 40 Part 89, Subparts D and E. See Page 14.  
Emission Factors are from AP 42 (Supplement B 10/96) Table 3.4-1 and Table 3.4-2  
1 hp-hr = 7000 Btu, AP42 (Supplement B 10/96), Table 3.3-1, Footnote a.  
Emission (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] \* 8760 hr/yr / (2,000 lb/ton)  
Emission (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)  
\*No information was given regarding which method was used to determine the PM emission factor or whether condensable PM is

**Appendix A: Emission Calculations**  
**Unrestricted Potential Emissions**

**Company Name:** Caterpillar, Inc.  
**Address City IN Zip:** 3701 State Road 26 East, Lafayette, IN 47905  
**Permit No.:** T 157-18082-00044  
**Plt ID:** 157-00044  
**Reviewer:** CarrieAnn Paukowits  
**Application Date:** September 29, 2003

Unrestricted Potential Emissions

Unrestricted Potential Emissions

	PM	PM10	SO2	NOx	VOC	CO	Ethyl Benzene	Glycol Ethers	Xylene	Benzene	Dichloro-benzene	Form-aldehyde	Hexane	Toluene	Lead	Cadmium	Chromium	Manganese	Nickel	Arsenic	
Boilers on Natural Gas	2.08	8.32	0.657	109	6.02	91.9	0.000	0.000	0.000	0.002	0.001	0.082	1.97	0.004	0.001	0.001	0.002	0.000	0.002	0.000	Boilers on Natural Gas
Boilers on No. 2 Fuel Oil	15.6	15.6	555	156	2.66	39.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.003	0.003	0.007	0.003	0.004	Boilers on No. 2 Fuel Oil
Boilers (BY24010, BY24011 & BY24012) - worst case total	15.6	15.6	555	156	6.02	91.9	0.000	0.000	0.000	0.002	0.001	0.082	1.97	0.004	0.010	0.003	0.003	0.007	0.003	0.004	Boilers (BY24010, BY24011 & BY24012) - worst case total
3500 & 3600 Engine Test Cells - nat. gas	0.053	6.80	0.400	2779	80.4	216	0.064	0.000	0.160	1.156	0.000	32.9	0.662	0.574	0.000	0.000	0.000	0.000	0.000	0.000	3500 & 3600 Engine Test Cells - nat. gas
3500 & 3600 Engine Test Cells - diesel	35.0	35.0	150	2357	74.9	409	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3500 & 3600 Engine Test Cells - diesel
3500 & 3600 Engine Test Cells (M501 - M520 & M522) - worst case	35.0	35.0	150	2779	80.4	409	0.064	0.000	0.160	1.156	0.000	32.9	0.662	0.574	0.000	0.000	0.000	0.000	0.000	0.000	3500 & 3600 Engine Test Cells (M501 - M520 & M522) - worst case
Packaging Test Cell - natural gas	0.005	0.599	0.035	245	7.08	19.0	0.006	0.000	0.014	0.102	0.000	2.90	0.058	0.051	0.000	0.000	0.000	0.000	0.000	0.000	Packaging Test Cell - natural gas
Packaging Test Cell - diesel	4.45	4.45	19.1	300	9.53	52.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Packaging Test Cell - diesel
Packaging Test Cell (M525) - worst case fuel	4.45	4.45	19.1	300	9.53	52.1	0.006	0.000	0.014	0.102	0.000	2.90	0.058	0.051	0.000	0.000	0.000	0.000	0.000	0.000	Packaging Test Cell (M525) - worst case fuel
Packaging Test Cell - natural gas	0.005	0.599	0.035	245	7.08	19.0	0.006	0.000	0.014	0.102	0.000	2.90	0.058	0.051	0.000	0.000	0.000	0.000	0.000	0.000	Packaging Test Cell - natural gas
Packaging Test Cell - diesel	4.45	4.45	19.1	300	9.53	52.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Packaging Test Cell - diesel
Packaging Test Cell (M526) - worst case fuel	4.45	4.45	19.1	300	9.53	52.1	0.006	0.000	0.014	0.102	0.000	2.90	0.058	0.051	0.000	0.000	0.000	0.000	0.000	0.000	Packaging Test Cell (M526) - worst case fuel
Power Module - natural gas	1.04	1.04	0.000	39.6	46.6	27.2	0.007	0.000	0.017	0.126	0.000	3.58	0.072	0.062	0.000	0.000	0.000	0.000	0.000	0.000	Power Module - natural gas
Power Module - diesel	7.40	4.24	37.4	237	6.66	62.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Power Module - diesel
Power Module (M547) - worst case fuel	7.40	4.24	37.4	237	46.6	62.9	0.007	0.000	0.017	0.126	0.000	3.58	0.072	0.062	0.000	0.000	0.000	0.000	0.000	0.000	Power Module (M547) - worst case fuel
Dual Fuel 3600 Test Stand - natural gas	0.675	0.675	0.000	14.5	11.5	27.8	0.005	0.000	0.011	0.082	0.000	2.33	0.047	0.041	0.000	0.000	0.000	0.000	0.000	0.000	Dual Fuel 3600 Test Stand - natural gas
Dual Fuel 3600 Test Stand - diesel	6.70	3.84	33.8	214	6.03	57.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Dual Fuel 3600 Test Stand - diesel
Dual Fuel 3600 Test Stand (M523) - worst case fuel	6.70	3.84	33.8	214	11.5	57.0	0.005	0.000	0.011	0.082	0.000	2.33	0.047	0.041	0.000	0.000	0.000	0.000	0.000	0.000	Dual Fuel 3600 Test Stand (M523) - worst case fuel
ABV Rock Test Site - natural gas	0.748	0.748	0.022	106	4.32	14.9	0.004	0.000	0.009	0.063	0.000	1.80	0.036	0.031	0.000	0.000	0.000	0.000	0.000	0.000	ABV Rock Test Site - natural gas
ABV Rock Test Site - diesel	3.72	2.13	18.8	119	3.35	31.6	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	ABV Rock Test Site - diesel
ABV Rock Test Site (M528) - worst case fuel	3.72	2.13	18.8	119	4.32	31.6	0.004	0.000	0.009	0.063	0.000	1.80	0.036	0.031	0.000	0.000	0.000	0.000	0.000	0.000	ABV Rock Test Site (M528) - worst case fuel
Peak Shaving Diesel Generators	24.3	13.9	123	776	21.8	206	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Peak Shaving Diesel Generators
Trailer Mounted Emergency Generators	2.57	1.47	13.0	82.2	2.31	21.8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Trailer Mounted Emergency Generators
Paint Booths (M751, M771 & M775)	124	124	0.000	0.000	316	0.000	36.4	36.4	77.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Paint Booths (M751, M771 & M775)
<b>Total</b>	<b>224</b>	<b>205</b>	<b>949</b>	<b>4664</b>	<b>498</b>	<b>933</b>	<b>36.5</b>	<b>36.4</b>	<b>77.3</b>	<b>1.531</b>	<b>0.001</b>	<b>43.6</b>	<b>2.84</b>	<b>0.763</b>	<b>0.010</b>	<b>0.003</b>	<b>0.003</b>	<b>0.007</b>	<b>0.003</b>	<b>0.004</b>	<b>Total</b>

See Page 12 for unrestricted potential emissions from more HAPs.

**Appendix A: Emission Calculations**  
**Unrestricted Potential Emissions, continued**

**Company Name: Caterpillar, Inc.**  
**Address City IN Zip: 3701 State Road 26 East, Lafayette, IN 47905**  
**Permit No.: T 157-18082-00044**  
**Plt ID: 157-00044**  
**Reviewer: CarrieAnn Paukowits**  
**Application Date: September 29, 2003**

Beryllium	Mercury	Selenium	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,3-Butadiene	1,3-Dichloropropene	2,2,4-Trimethylpentane	Acetaldehyde	Acrolein	Biphenyl	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Ethylene Dibromide	Methanol	Methylene Chloride	Naphthalene	Phenol	Styrene	Vinyl Chloride	Total HAPs
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.07
0.003	0.003	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.054
0.003	0.003	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.07
0.000	0.000	0.000	0.040	0.031	0.489	0.026	0.504	4.98	4.64	0.126	0.036	0.026	0.001	0.028	0.044	1.82	0.088	0.058	0.025	0.033	0.015	48.5
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.040	0.031	0.489	0.026	0.504	4.98	4.64	0.126	0.036	0.026	0.001	0.028	0.044	1.82	0.088	0.058	0.025	0.033	0.015	48.5
0.000	0.000	0.000	0.003	0.003	0.043	0.002	0.044	0.439	0.409	0.011	0.003	0.002	0.000	0.002	0.004	0.161	0.008	0.005	0.002	0.003	0.001	4.28
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.003	0.003	0.043	0.002	0.044	0.439	0.409	0.011	0.003	0.002	0.000	0.002	0.004	0.161	0.008	0.005	0.002	0.003	0.001	4.28
0.000	0.000	0.000	0.003	0.003	0.043	0.002	0.044	0.439	0.409	0.011	0.003	0.002	0.000	0.002	0.004	0.161	0.008	0.005	0.002	0.003	0.001	4.28
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.003	0.003	0.043	0.002	0.044	0.439	0.409	0.011	0.003	0.002	0.000	0.002	0.004	0.161	0.008	0.005	0.002	0.003	0.001	4.28
0.000	0.000	0.000	0.004	0.003	0.053	0.003	0.055	0.542	0.504	0.014	0.004	0.003	0.000	0.003	0.005	0.198	0.010	0.006	0.003	0.004	0.002	5.27
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.004	0.003	0.053	0.003	0.055	0.542	0.504	0.014	0.004	0.003	0.000	0.003	0.005	0.198	0.010	0.006	0.003	0.004	0.002	5.27
0.000	0.000	0.000	0.003	0.002	0.035	0.002	0.036	0.352	0.33	0.009	0.003	0.002	0.000	0.002	0.003	0.129	0.006	0.004	0.002	0.002	0.001	3.4
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.003	0.002	0.035	0.002	0.036	0.352	0.328	0.009	0.003	0.002	0.000	0.002	0.003	0.129	0.006	0.004	0.002	0.002	0.001	3.43
0.000	0.000	0.000	0.002	0.002	0.027	0.001	0.028	0.272	0.253	0.007	0.002	0.001	0.000	0.002	0.002	0.100	0.005	0.003	0.001	0.002	0.001	2.65
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.002	0.002	0.027	0.001	0.028	0.272	0.253	0.007	0.002	0.001	0.000	0.002	0.002	0.100	0.005	0.003	0.001	0.002	0.001	2.65
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	150
0.003	0.003	0.016	0.052	0.042	0.646	0.03	0.667	6.59	6.13	0.167	0.048	0.035	0.001	0.037	0.058	2.41	0.116	0.077	0.033	0.043	0.019	216

**Appendix A: Emission Calculations  
Limited Potential to Emit**

**Company Name: Caterpillar, Inc.**  
**Address City IN Zip: 3701 State Road 26 East, Lafayette, IN 47905**  
**Permit No.: T 157-18082-00044**  
**Plt ID: 157-00044**  
**Reviewer: CarrieAnn Paukowits**  
**Application Date: September 29, 2003**

**Limited Potential to Emit**

	PM	PM10	SO2	NOx	VOC	CO	Ethyl Benzene	Glycol Ethers	Xylene	Benzene	Dichloro-benzene	Form-aldehyde	Hexane	Toluene	Lead	Cadmium	Chromium	Manganese	Nickel
Boilers on Natural Gas	2.08	8.32	0.657	109	6.02	91.9	0.000	0.000	0.000	0.002	0.001	0.082	1.97	0.004	0.001	0.001	0.002	0.000	0.002
Boilers on No. 2 Fuel Oil	11.9	11.9	245	119	2.03	29.8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.002	0.002	0.004	0.002
**Boilers (BY24010, BY24011 & BY24012) - limited total	14.0	15.6	246	156	6.02	91.9	0.000	0.000	0.000	0.002	0.001	0.082	1.970	0.004	0.007	0.003	0.003	0.005	0.003
3500 & 3600 Engine Test Cells - nat. gas	0.011	1.39	0.082	566	16.4	44.0	0.015	0.000	0.037	0.269	0.000	7.658	0.154	0.134	0.000	0.000	0.000	0.000	0.000
3500 & 3600 Engine Test Cells - diesel	8.40	8.40	36.0	566	18.0	98.4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3500 & 3600 Engine Test Cells (M501 - M520, M522, M525 & M526) - worst case	8.40	8.40	36.0	566	18.0	98.4	0.015	0.000	0.037	0.269	0.000	7.658	0.154	0.134	0.000	0.000	0.000	0.000	0.000
Power Module - natural gas	0.533	0.533	0.00	20.4	24.0	14.0	0.004	0.000	0.010	0.074	0.000	2.100	0.042	0.037	0.000	0.000	0.000	0.000	0.000
Power Module - diesel	1.16	0.667	5.88	37.3	1.05	9.89	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Power Module (M547) - worst case fuel	1.16	0.667	5.88	37.3	24.0	14.0	0.004	0.000	0.010	0.074	0.000	2.100	0.042	0.037	0.000	0.000	0.000	0.000	0.000
Dual Fuel 3600 Test Stand - natural gas	0.675	0.675	0.000	14.5	11.5	27.8	0.005	0.000	0.013	0.093	0.000	2.660	0.053	0.046	0.000	0.000	0.000	0.000	0.000
Dual Fuel 3600 Test Stand - diesel	1.16	0.667	5.88	37.3	1.05	9.89	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dual Fuel 3600 Test Stand (M523) - worst case fuel	1.16	0.675	5.88	37.3	11.5	27.8	0.005	0.000	0.013	0.093	0.000	2.660	0.053	0.046	0.000	0.000	0.000	0.000	0.000
ABV Rock Test Site - natural gas	0.280	0.280	0.008	39.6	1.62	5.56	0.002	0.000	0.004	0.027	0.000	0.769	0.015	0.013	0.000	0.000	0.000	0.000	0.000
ABV Rock Test Site - diesel	1.16	0.667	5.88	37.3	1.05	9.89	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ABV Rock Test Site (M528) - worst case fuel	1.16	0.667	5.88	39.6	1.62	9.89	0.002	0.000	0.004	0.027	0.000	0.769	0.015	0.013	0.000	0.000	0.000	0.000	0.000
Peak Shaving Diesel Generators	1.16	0.666	5.87	37.2	1.05	9.88	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Trailer Mounted Emergency Generators	0.801	0.459	4.04	25.6	0.721	6.81	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Paint Booths (M751, M771 & M775)	2.49	2.49	0.000	0.000	249	0.000	36.4	36.4	77.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>Total</b>	<b>30.3</b>	<b>29.7</b>	<b>310</b>	<b>900</b>	<b>312</b>	<b>259</b>	<b>36.5</b>	<b>36.4</b>	<b>77.1</b>	<b>0.466</b>	<b>0.001</b>	<b>13.3</b>	<b>2.24</b>	<b>0.234</b>	<b>0.007</b>	<b>0.003</b>	<b>0.003</b>	<b>0.005</b>	<b>0.003</b>

**PSD Modification**

	PM	PM10	SO2	NOx	VOC	CO	Ethyl Benzene	Glycol Ethers	Xylene	Benzene	Dichloro-benzene	Form-aldehyde	Hexane	Toluene	Lead	Cadmium	Chromium	Manganese	Nickel
<b>After Modification (M501-M520, M522, M525 &amp; M526)</b>																			
3500 & 3600 Engine Test Cells - nat. gas	0.011	1.39	0.082	566	16.4	44.0	0.015	0.000	0.037	0.269	0.000	7.66	0.154	0.134	0.000	0.000	0.000	0.000	0.000
3500 & 3600 Engine Test Cells - diesel	8.40	8.40	36.0	566	18.0	98.4	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3500 & 3600 Engine Test Cells - worst case	8.40	8.40	36.0	566	18.0	98.4	0.015	0.000	0.037	0.269	0.000	7.66	0.154	0.134	0.000	0.000	0.000	0.000	0.000
<b>Before Modification (M501-M520, M522 &amp; M525 (M526 is a proposed new unit))</b>																			
3500 & 3600 Engine Test Cells - nat. gas	0.005	0.709	0.042	289.6	8.38	22.5	0.008	0.000	0.019	0.138	0.000	3.92	0.079	0.068	0.000	0.000	0.000	0.000	0.000
3500 & 3600 Engine Test Cells - diesel	4.30	4.30	18.4	289.8	9.21	50.3	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3500 & 3600 Engine Test Cells - worst case	4.30	4.30	18.4	289.8	9.21	50.3	0.008	0.000	0.019	0.138	0.000	3.92	0.079	0.068	0.000	0.000	0.000	0.000	0.000
<b>Increase due to Modification</b>																			
3500 & 3600 Engine Test Cells - worst case	4.10	4.10	17.6	277	8.79	48.1	0.007	0.000	0.018	0.131	0.000	3.74	0.075	0.065	0.000	0.000	0.000	0.000	0.000
<b>Potential to Emit of Source Prior to Modification</b>																			
	26.2	25.6	292	623	303	211	36.5	36.4	77.1	0.334	0.001	9.53	2.16	0.169	0.007	0.003	0.003	0.005	0.003

\*\*For the boilers, the limited total is either the total limited emissions from No. 2 fuel oil on this page plus the unrestricted potential emissions from natural gas (No. 2 fuel oil usage is limited while natural gas usage is not) or the worst-case unrestricted potential emissions from page 11, whichever is less.  
 See Page 14 for the Limited Potential to Emit from Additional HAPs.

**Appendix A: Emission Calculations  
Limited Potential to Emit**

**Company Name: Caterpillar, Inc.  
Address City IN Zip: 3701 State Road 26 East, Lafayette, IN 47905  
Permit No.: T 157-18082-00044  
Plt ID: 157-00044  
Reviewer: CarrieAnn Paukowitz  
Application Date: September 29, 2003**

**Limited Potential to Emit**

	Arsenic	Beryllium	Mercury	Selenium	1,1,2,2-Tetrachloro-ethane	1,1,2-Trichloro-ethane	1,3-Butadiene	1,3-Dichloro-propene	2,2,4-Trimethyl-pentane	Acetaldehyde	Acrolein	Biphenyl	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Ethylene Dibromide	Methanol	Methylene Chloride	Naphthalene	Phenol	Styrene	Vinyl Chloride	Total HAPs
Boilers on Natural Gas	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.07
Boilers on No. 2 Fuel Oil	0.003	0.002	0.002	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.036
**Boilers (BY24010, BY24011 & BY24012) - limited total	0.003	0.002	0.002	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.07
3500 & 3600 Engine Test Cells - nat. gas	0.000	0.000	0.000	0.000	0.009	0.007	0.114	0.006	0.117	1.160	1.079	0.029	0.008	0.006	0.0003	0.007	0.010	0.425	0.020	0.013	0.006	0.008	0.003	11.3
3500 & 3600 Engine Test Cells - diesel	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3500 & 3600 Engine Test Cells (M501 - M520, M522, M525 & M526) - worst case	0.000	0.000	0.000	0.000	0.009	0.007	0.114	0.006	0.117	1.16	1.08	0.029	0.008	0.006	0.000	0.007	0.010	0.425	0.020	0.013	0.006	0.008	0.003	11.3
Power Module - natural gas	0.000	0.000	0.000	0.000	0.003	0.002	0.031	0.002	0.032	0.318	0.296	0.008	0.002	0.002	0.0001	0.002	0.003	0.116	0.006	0.004	0.002	0.002	0.001	3.10
Power Module - diesel	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Power Module (M547) - worst case fuel	0.000	0.000	0.000	0.000	0.003	0.002	0.031	0.002	0.032	0.318	0.296	0.008	0.002	0.002	0.000	0.002	0.003	0.116	0.006	0.004	0.002	0.002	0.001	3.10
Dual Fuel 3600 Test Stand - natural gas	0.000	0.000	0.000	0.000	0.003	0.003	0.040	0.002	0.041	0.403	0.375	0.010	0.003	0.002	0.0001	0.002	0.004	0.147	0.007	0.005	0.002	0.003	0.001	3.92
Dual Fuel 3600 Test Stand - diesel	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dual Fuel 3600 Test Stand (M523) - worst case fuel	0.000	0.000	0.000	0.000	0.003	0.003	0.040	0.002	0.041	0.403	0.375	0.010	0.003	0.002	0.0001	0.002	0.004	0.147	0.007	0.005	0.002	0.003	0.001	3.92
ABV Rock Test Site - natural gas	0.000	0.000	0.000	0.000	0.001	0.001	0.011	0.001	0.012	0.116	0.108	0.003	0.001	0.001	0.00003	0.001	0.001	0.043	0.002	0.001	0.001	0.001	0.0003	1.13
ABV Rock Test Site - diesel	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ABV Rock Test Site (M528) - worst case fuel	0.000	0.000	0.000	0.000	0.001	0.001	0.011	0.001	0.012	0.116	0.108	0.003	0.001	0.001	0.00003	0.001	0.001	0.043	0.002	0.001	0.001	0.001	0.0003	1.13
Peak Shaving Diesel Generators	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Trailer Mounted Emergency Generators	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Paint Booths (M751, M771 & M775)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	150
<b>Total</b>	<b>0.003</b>	<b>0.002</b>	<b>0.002</b>	<b>0.011</b>	<b>0.016</b>	<b>0.013</b>	<b>0.196</b>	<b>0.010</b>	<b>0.202</b>	<b>2.00</b>	<b>1.86</b>	<b>0.051</b>	<b>0.015</b>	<b>0.011</b>	<b>0.000</b>	<b>0.011</b>	<b>0.018</b>	<b>0.731</b>	<b>0.035</b>	<b>0.023</b>	<b>0.010</b>	<b>0.013</b>	<b>0.006</b>	<b>171</b>

**PSD Modification**

	Arsenic	Beryllium	Mercury	Selenium	1,1,2,2-Tetrachloro-ethane	1,1,2-Trichloro-ethane	1,3-Butadiene	1,3-Dichloro-propene	2,2,4-Trimethyl-pentane	Acetaldehyde	Acrolein	Biphenyl	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Ethylene Dibromide	Methanol	Methylene Chloride	Naphthalene	Phenol	Styrene	Vinyl Chloride	Total HAPs
<b>After Modification (M501-M520, M522, M525 &amp; M526)</b>																								
3500 & 3600 Engine Test Cells - nat. gas	0.000	0.000	0.000	0.000	0.009	0.007	0.114	0.006	0.117	1.160	1.079	0.029	0.008	0.006	0.000	0.007	0.010	0.425	0.020	0.013	0.006	0.008	0.003	11.3
3500 & 3600 Engine Test Cells - diesel	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3500 & 3600 Engine Test Cells - worst case	0.000	0.000	0.000	0.000	0.009	0.007	0.114	0.006	0.117	1.16	1.08	0.029	0.008	0.006	0.000	0.007	0.010	0.425	0.020	0.013	0.006	0.008	0.003	11.3
<b>Before Modification (M501-M520, M522 &amp; M525 (M526 is a proposed new unit))</b>																								
3500 & 3600 Engine Test Cells - nat. gas	0.000	0.000	0.000	0.000	0.005	0.004	0.058	0.003	0.060	0.593	0.552	0.015	0.004	0.003	0.000	0.003	0.005	0.217	0.010	0.007	0.003	0.004	0.002	5.78
3500 & 3600 Engine Test Cells - diesel	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
3500 & 3600 Engine Test Cells - worst case	0.000	0.000	0.000	0.000	0.005	0.004	0.058	0.003	0.060	0.593	0.552	0.015	0.004	0.003	0.000	0.003	0.005	0.217	0.010	0.007	0.003	0.004	0.002	5.78
<b>Increase due to Modification</b>																								
3500 & 3600 Engine Test Cells - worst case	0.000	0.000	0.000	0.000	0.004	0.004	0.056	0.003	0.057	0.566	0.527	0.014	0.004	0.003	0.000	0.003	0.005	0.207	0.010	0.007	0.003	0.004	0.002	5.52
<b>Potential to Emit of Source Prior to Modification</b>																								
	0.003	0.002	0.002	0.011	0.011	0.009	0.140	0.007	0.145	1.43	1.33	0.036	0.010	0.008	0.0003	0.008	0.013	0.524	0.025	0.017	0.007	0.009	0.004	166

**Appendix A: Emission Calculations**  
**Emission Factor Calculations for Diesel Fuel for Units Undergoing PSD Review**  
**Provided by the Applicant**

**Company Name: Caterpillar, Inc.**  
**Address City IN Zip: 3701 State Road 26 East, Lafayette, IN 47905**  
**Permit No.: T 157-18082-00044**  
**Plt ID: 157-00044**  
**Reviewer: CarrieAnn Paukowits**  
**Application Date: September 29, 2003**

		Tier 2		Tier 1/IMO					Non Reg
		3516C	3512C	3516B	3516B	3516B	3512C	3508B	3516
		EP	PET	EP	MAR	IND	PET	CAPTIVE	EP
		2.0 MW	2250 bhp	2.0 MW	2200 bhp	2200 bhp	2250 bhp	1000 bhp	1.75 MW
		STBY	Well Frac	STBY	1600 "C"	1800 "C"	Well Frac	777D	STBY
		DM8263	DM8302	DM4505	DM6816	DM4642	DM4584	n/a	DM7958
BSFC	g/bkW-hr	201	213	203	202	212	208	215	209
NOx	g/bhp-hr	5.39	4.99	7.63	7.54	5.91	8.03	5.90	10.52
PM/PM10	g/bhp-hr	0.03	0.06	0.05	0.06	0.06	0.06	0.10	0.08
SO2	g/bhp-hr	0.60	0.63	0.60	0.60	0.63	0.62	0.64	0.62
VOC (THC)	g/bhp-hr	0.11	0.10	0.12	0.10	0.19	0.11	0.30	0.04
CO	g/bhp-hr	0.29	0.81	0.11	0.24	0.32	0.34	0.40	1.4

Assumptions:

1. Use best fuel consumption and worst emissions number for each constituent for emissions factor in each category
2. Worst case C175 Tier 2 will have same emissions factors as 3500C. (Slightly better emissions, and slightly better BSFC)
3. Tier 4 will use aftertreatment. Assume Tier 4 will have same factory engine out emissions as Tier 2 as worst case
4. Use multiplier calculated separately to adjust rated point emissions to represent basic test cycle
5. Fuel sulfur is 0.2% of the fuel.

	Multiplier:	1		1.4		1		1.1		1.3	
	BSFC	NOx (g/hp-hr)	NOx (lb/1000 gal fuel)	PM/PM10 (g/hp-hr)	PM/PM10 (lb/1000 gal fuel)	SO2 (g/hp-hr)	SO2 (lb/1000 gal fuel)	VOC (THC) (g/hp-hr)	VOC (THC) (lb/1000 gal fuel)	CO (g/hp-hr)	CO (lb/1000 gal fuel)
NR	209	10.52	472	0.11	5	0.62	28	0.04	2	1.82	82
Tier 1	202	8.03	373	0.14	7	0.64	30	0.33	15	0.52	24
Tier 2	201	5.39	252	0.08	4	0.63	30	0.12	6	1.05	49
Tier 4	201	5.39	252	0.08	4	0.63	30	0.12	6	1.05	49

Emission Factor (g/hp-hr) = Emission factor (g/bhp-hr) x multiplier

Emission Factor (lb/1,000 gal) = Emission factor (g/bhp-hr) / BSFC (g/bkW-hr) / 0.746 lbs/g x 7.001 lbs fuel/gal fuel x 1,000 gallons

**Indiana Department of Environmental Management  
Office of Air Quality**

Appendix B - Air Quality Analysis  
Technical Support Document (TSD)  
for a Prevention of Significant Deterioration (PSD) Modification

**Source Description and Location**

Source Name:	Caterpillar, Inc.
Source Address:	3701 State Road 26 East, Lafayette, IN 47905
Mailing Address:	3701 State Road 26 East, Lafayette, IN 47905
General Source Phone Number:	(765) 448-5510
Responsible Official:	Plant Manager
County:	Tippecanoe
SIC Code:	3519
Source Status:	Part 70 Operating Permit Program Major Source, under PSD Rules Major Source, Section 112 of the Clean Air Act
Part 70 Renewal (and PSD permit) No.:	T 157-18082-00044
Air Modeler:	Jeffrey Stoakes

**Proposed Project**

Caterpillar, Inc. (Caterpillar) has submitted a request for a revision of their Nitrogen Oxides (NO<sub>x</sub>) emission limits. Caterpillar is proposing to increase the fuel use limitation for the twenty-one (21) engine test cells, M501 through M520 and M522, from 1,062,000 gallons per twelve (12)-month period to 2,400,000 gallons per twelve (12)-month period, and include one (1) packaging test cell, identified as M525, previously with a fuel use limitation of 166,000 gallons per twelve (12)-month period, and one (1) proposed packaging test cell, identified as M526, in the new limit.

Keramida Environmental, Inc. prepared the permit application for Caterpillar. The Modeling Section in the Office of Air Quality (OAQ) received the permit application on March 9, 2006. This Appendix to the Technical Support Document provides the air quality analysis review of the permit application.

**Analysis Summary**

Based on the potential emissions after controls, a PSD air quality analysis was triggered for NO<sub>2</sub>. The significant impact analysis determined that modeling concentrations for NO<sub>x</sub> exceeded the significant impact levels. A refined analysis was required and showed no violation of the NAAQS and the PSD increment. The pre-and post-construction monitoring requirements are not necessary. A Hazardous Air Pollutant (HAP) analysis was not performed since there was no HAP emissions increase. An additional impact analysis was conducted and showed no significant impact. Based on the modeling results, the source will not have a significant impact upon federal air quality standards.

**Air Quality Impact Objectives**

The purpose of the air quality impact analysis in the permit application is to accomplish the following objectives. Each objective is individually addressed in this document in each section outlined below.

- A. Establish which pollutants require an air quality analysis based on PSD significant emission rates.
- B. Provide analyses of actual stack heights with respect to Good Engineering Practice (GEP), the

meteorological data used, a description of the model used in the analysis, and the receptor grid utilized for the analyses.

- C. Determine the significant impact level, the area impacted by the source's emissions and background air quality levels.
- D. Demonstrate that the source will not cause or contribute to a violation of the National Ambient Air Quality Standard (NAAQS) or PSD increment if the applicant exceeds significant impact levels.
- E. Perform a qualitative analysis of the source's impact on general growth, soils, vegetation and visibility in the impact area with emphasis on any Class I areas. The nearest Class I area is Kentucky's Mammoth Cave National Park.
- F. Summarize the Air Quality Analysis.

<b>Section A - Pollutants Analyzed for Air Quality Impact</b>
---

**Applicability**

The PSD requirements, 326 IAC 2-2, apply in attainment and unclassifiable areas and require an air quality impact analysis of each regulated pollutant emitted in significant amounts by a major stationary source or modification. Significant emission levels for each pollutant are defined in 326 IAC 2-2-1 and in the Code of Federal Register (CFR) 52.21(b)(23)(i).

**Proposed Project Emissions**

An air quality analysis is required for Nitrogen Oxides (NO<sub>x</sub>) because NO<sub>x</sub> emissions exceed the significant emission rate as shown in Table 1:

**TABLE 1**  
**Significant Emission Rates for PSD**

POLLUTANT	POTENTIAL EMISSION RATE (Facility Totals)	SIGNIFICANT EMISSION RATE	PRELIMINARY AQ ANALYSIS REQUIRED
	(tons/year)	(tons/year)	
NO <sub>x</sub>	566	40	Yes

Modeled emission rates were taken from the permit application.

## Section B – Good Engineering Practice (GEP), Meteorological Data, Model Used, Receptor Grid

### Stack Height Compliance with Good Engineering Practice (GEP)

#### Applicability

Stacks should comply with GEP requirements established in 326 IAC 1-7-4. If stacks are lower than GEP, excessive ambient concentrations due to aerodynamic downwash may occur. Dispersion modeling credit for stacks taller than 65 meters (213 feet) are limited to GEP for the purpose of establishing emission limitations. The GEP stack height takes into account the distance and dimensions of nearby structures, which would affect the downwind wake of the stack. The downwind wake is considered to extend five times the lesser of the structure's height or width. A GEP stack height is determined for each nearby structure by the following formula:

$$H_g = H + 1.5L$$

Where:  $H_g$  is the GEP stack height  
 $H$  is the structure height  
 $L$  is the structure's lesser dimension (height or width)

#### Existing Stack

Since the existing stack heights of the units for which the modification is proposed are below GEP stack height, the effect of aerodynamic downwash will be accounted for in the air quality analysis for the project.

#### Meteorological Data

The meteorological data used in the Industrial Source Complex Short Term (ISCST3) model consisted of 1990 through 1994 surface data from the Indianapolis Airport Weather Service station merged with the mixing heights from Peoria, Illinois Airport National Weather Service station. The meteorological data was purchased through the National Oceanic and Atmospheric Administration (NOAA) and National Climatic Data Center (NCDC) and preprocessed into ISCST3 ready format using U.S. EPA's PCRAMMET.

#### Model Description

Keramida Environmental Inc. used ISC3, Version 02035. OAQ used the same model version to determine maximum off-property concentrations or impacts for each pollutant. All regulatory default options were utilized in the U.S. EPA approved model, as listed in the 40 Code of Federal Register Part 51, Appendix W "Guideline on Air Quality Models."

The Auer Land Use Classification Scheme was used to determine the land use in the area. The area is considered primarily rural; therefore, a rural classification was used.

#### Receptor Grid

The receptor grid extended to approximately ten (10) kilometers from the plant. Fence line receptors were closely spaced (100 meters) near the plant boundary to identify the influence of aerodynamic building downwash.

**Section C - Significant Impact Level/Area (SIA) and Background Air Quality Levels**

A significant impact analysis was conducted to determine if the source exceeded the PSD significant impact levels (concentrations). If the source's concentrations exceed these levels, further air quality analysis is required. Modeling for NO<sub>x</sub> was required because the results did exceed significant impact levels. Significant impact levels are defined by the following time periods in Table 2 below with all maximum-modeled concentrations from the worst case operating scenarios.

**TABLE 2**  
**Significant Impact Analysis**

POLLUTANT	TIME AVERAGING PERIOD	MAXIMUM MODELED IMPACTS (ug/m <sup>3</sup> )	SIGNIFICANT IMPACT LEVEL (ug/m <sup>3</sup> )	REFINED AQ ANALYSIS REQUIRED
NO <sub>x</sub>	Annual	18.66	1	Yes

**Pre-construction Monitoring Analysis**

**Applicability**

The PSD requirements, 326 IAC 2-2-4 require an air quality analysis of the new source or the major modification to determine if the pre-construction monitoring threshold is triggered. In most cases, post construction monitoring can satisfy this requirement if the pre-construction monitoring threshold has been exceeded.

**Modeling Results**

A comparison of the preliminary modeling results was compared to the PSD preconstruction monitoring thresholds. The results are shown in the table below.

**TABLE 3**  
**Preconstruction Monitoring Analysis**

POLLUTANT	TIME AVERAGING PERIOD	MAXIMUM MODELED IMPACTS (ug/m <sup>3</sup> )	DEMINIMIS LEVEL (ug/m <sup>3</sup> )	ABOVE DE MINIMIS LEVEL
NO <sub>x</sub>	Annual	18.66	13	Yes

The criteria pollutant, NO<sub>x</sub> did trigger the preconstruction monitoring. Caterpillar can satisfy the preconstruction monitoring requirement for NO<sub>x</sub> since there is air quality monitoring data representative of the area. Air quality monitors have already been established that are representative of the air quality near the facility.

**Background Concentrations**

**Applicability**

EPA's "Ambient Monitoring Guidelines for Prevention of Significant Deterioration" (EPA-450/4-87-007) Section 2.4.1 is cited for approval of the monitoring sites for this area.

**Background Monitors**

The results from the monitoring site are considered representative of the area. The monitor site in Hendricks County has the highest NO<sub>x</sub> concentrations in a similar setting to the Caterpillar facility.

For twenty-four (24)-hour background concentrations, the averaged second highest monitoring values were used. Annual background concentrations were taken from the maximum annual values. It was agreed between Caterpillar and IDEM that a conservative approach be taken in place of the preconstruction monitoring requirement.

**TABLE 4**  
**Existing Monitoring Data Used For Background Concentrations \***

Pollutant	Monitoring Site	Averaging Period	Concentration ug/m3
NO <sub>x</sub>	Hendricks County CR 800N and CR 275E	Annual	23.7

\*OAQ used the most conservative values for the air quality analysis. It is standard policy to use the latest 3 years of data.

**Section D - NAAQS and PSD Increment**

**NAAQS Compliance Analysis and Results**

IDEM supplied emission inventories of all sources within a 50-kilometer radius of Caterpillar. Inventories were taken from the IDEM's air quality web site. The NAAQS inventories are generated from I-STEPS (State Emission Processing System) in accordance with 326 IAC 2-6. The PSD increment inventories include sources that affect the increment based on the major and minor source baseline dates and are compiled from permits issued by IDEM.

NAAQS modeling for the appropriate time-averaging periods for NO<sub>x</sub> was conducted and compared to the respective NAAQS limit. OAQ modeling results are shown in Table 5. All maximum-modeled concentrations were compared to the respective NAAQS limit. All maximum-modeled concentrations during the five years were below the NAAQS limits and further modeling was not required.

**TABLE 5**  
**NAAQS Analysis**

Pollutant	Year	Time-Averaging Period	Maximum Concentration ug/m3	Background Concentration ug/m3	Total ug/m3	NAAQS Limit ug/m3	NAAQS Violation
NO <sub>x</sub>	1994	Annual	3.85	23.7	27.55	100	NO

**Analysis and Results of Source Impact on the PSD Increment**

**Applicability**

Maximum allowable increases (PSD increments) are established by 326 IAC 2-2 for NO<sub>x</sub>. This rule also limits a source to no more than eighty percent (80%) of the available PSD increment to allow for future growth.

## Source Impact

Since the impact for NO<sub>x</sub> from Caterpillar modeled above significant impact levels, a PSD increment analysis for the existing major sources in Tippecanoe County and its surrounding counties was required. Results of the increment modeling are summarized in Table 6 below.

**TABLE 6**  
**Increment Analysis**

Pollutant	Year	Time-Averaging Period	Maximum Concentration ug/m <sup>3</sup>	PSD Increment ug/m <sup>3</sup>	Percent Impact on the PSD Increment	Increment Violation
NO <sub>x</sub>	1990	Annual	0.77	25	3.85%	NO

The results of the increment analysis shows all pollutants for all averaging periods were below eighty percent (80%) of the available increment.

## Section E – Qualitative Analysis

### Additional Impact Analysis

All PSD permit applicants must prepare additional impacts analysis for each pollutant subject to regulation under the Act. This analysis assesses the impacts on soils and vegetation, caused by any increase in emissions of any regulated pollutant from the source. The Caterpillar PSD permit application provided an additional impact analysis performed by Keramida Environmental, Inc.

### Economic Growth

Since the construction of one new test cell (M526) is expected to be minimal and no additional jobs are to be added, there will be no growth associated with this change.

### Soils and Vegetation Analysis

A list of soil types present in the general area was determined. Soil types include the following: Loamy Glacial Till, Moderate Thick Loess Over Loamy Glacial Till, and Thin Loess Over Loamy Glacial Till.

Due to the agricultural nature of the land, crops in the Tippecanoe County area consist mainly of corn, wheat, and soybeans (1997 Agricultural Census for Tippecanoe County). The maximum modeled concentrations for Caterpillar are well below the threshold limits necessary to have adverse impacts on the surrounding vegetation such as autumn bent, nimblewill, barnyard grass, bishops cap and horsetail, and milkweed (Flora of Indiana – Charles Deam). Livestock in Tippecanoe County consist mainly of hogs and beef and milk cows (1992 Agricultural Census for Tippecanoe County) and will not be adversely impacted from the facility. Trees in the area are mainly hardwoods. These are hardy trees and no significant adverse impacts are expected due to modeled concentrations.

### Federal Endangered Species Analysis

Federally endangered or threatened species are listed by the U.S. Fish and Wildlife Service; Division of Endangered Species for Indiana and includes 12 species of mussels, 4 species of birds, 2 species of bat and butterflies and 1 specie of snake. The mussels and birds listed are commonly found along major rivers and lakes while the bats are found near caves. The facility is not expected to have any additional adverse effects on the habitats of the species than what has already occurred from the industrial and residential activities in the area.

Federally endangered or threatened plants as listed by the U.S. Fish and Wildlife Service, Division of Endangered Species for Indiana list two threatened and one endangered species of plants. The endangered plant is found along the sand dunes in northern Indiana while the two threatened species do not thrive in industrialized and residential areas. The facility is not expected to impact that area.

### **Visibility Analysis**

The VISCREEN model is designed as a screening model to determine the visual impact parameters from a single source plume. It is used basically to determine whether or not a plume is visible as an object itself.

The NO<sub>x</sub> emissions limits were used to run a local visibility Level 1 analysis. VISCREEN Version 1.01 was used to determine if the color difference parameter (Delta-E) or the plume (green) contrast limits were exceeded. The Delta-E was developed to specify the perceived magnitude of color and brightness changes and is used as the primary basis for determining the perceptibility of plume visual impacts. The plume constant can be defined at any wavelength as the relative difference in the intensity (called spectral radiance) between the viewed object and its background. This is used to determine how the human eye responds differently to different wavelengths of light. The Delta-E of 2.0 and the plume contrast of 0.05 were not exceeded at the nearest interstate location, along I-65. The nearest Class 1 area, Mammoth Cave National Park in Kentucky, is over 300 kilometers away and visibility analysis for that area is not necessary.

### **Additional Analysis Conclusions**

Finally, the results of the additional impact analysis conclude the operation of the facility will have no significant impact on economic growth, soils, vegetation or visibility in the immediate vicinity or on any Class I area.

<b>Section F - Summary of Air Quality Analysis</b>
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Caterpillar has applied for a revision of their NO<sub>x</sub> emission limits. Keramida Environmental Incorporated of Indianapolis, Indiana prepared the PSD application. Tippecanoe County is designated as attainment for all criteria pollutants. NO<sub>x</sub> emission rates associated with the proposed facilities exceeded the respective significant emission rates. Modeling results taken from the latest version of the ISC3 model showed NO<sub>x</sub> impacts were predicted to be greater than the significant impact levels. Caterpillar did trigger preconstruction monitoring for NO<sub>x</sub> but can satisfy the preconstruction monitoring requirement since there is existing air quality monitoring data representative of the area. The NAAQS and increment modeling for NO<sub>x</sub> showed no violations of the standards. An air toxic analysis was not performed because there was no HAP increase. The nearest Class I area is Mammoth Cave National Park in Kentucky over 300 kilometers away from the source. Additional impact analysis was required but the operation of the proposed facility will have no significant impact.