



# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

*We Protect Hoosiers and Our Environment.*

*Mitchell E. Daniels Jr.*  
Governor

*Thomas W. Easterly*  
Commissioner

100 North Senate Avenue  
Indianapolis, Indiana 46204  
(317) 232-8603  
Toll Free (800) 451-6027  
[www.idem.IN.gov](http://www.idem.IN.gov)

TO: Interested Parties / Applicant

DATE: April 27, 2011

RE: Caterpillar Reman Powertrain Indiana Inc. / 081-30269-00056

FROM: Matthew Stuckey, Branch 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 13-17-3-4 and 326 IAC 2, this approval 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 13-15-7-3 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 Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. 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.

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.

Enclosures  
FNPER-MOD.dot 12/3/07



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Bill Hayes  
Caterpillar Reman Powertrain Indiana, Inc.  
751 International Drive  
Franklin, Indiana 46131

April 27, 2011

Re: 081-30269-00056  
First Minor Revision to  
F081-28719-00056

Dear Bill Hayes:

Caterpillar Reman Powertrain Indiana, Inc. was issued a Federally Enforceable State Operating Permit (FESOP) Renewal No. F081-28719-00056 on May 20, 2010 for a stationary diesel engine remanufacturing located at 751 International Drive, Franklin, Indiana 46131. On February 24, 2011, the Office of Air Quality (OAQ) received an application from the source requesting to change its raw materials and throughput of its Flame Spray unit, FS-01, and to apply a National Emission Standards for Hazardous Air Pollutants (NESHAP) to this unit. The attached Technical Support Document (TSD) provides additional explanation of the changes to the source/permit. Pursuant to the provisions of 326 IAC 2-8-11.1, these changes to the permit are required to be reviewed in accordance with the Minor Permit Revision (MPR) procedures of 326 IAC 2-8-11.1(e). Pursuant to the provisions of 326 IAC 2-8-11.1, a minor permit revision to this permit is hereby approved as described in the attached Technical Support Document (TSD).

Pursuant to 326 IAC 2-8-11.1, this permit shall be revised by incorporating the minor permit revision into the permit. All other conditions of the permit shall remain unchanged and in effect. Attached please find the entire revised permit.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Jack Harmon, of my staff, at 317-233-4228 or 1-800-451-6027, and ask for extension 3-4228.

Sincerely,

Iryn Calilung, Section Chief  
Permits Branch  
Office of Air Quality

Attachments: Technical Support Document and revised permit

IC/jh

cc: File – Johnson County  
Johnson County Health Department  
U.S. EPA, Region V  
Compliance and Enforcement Branch  
Billing, Licensing and Training Section



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**Federally Enforceable State Operating Permit  
Renewal  
OFFICE OF AIR QUALITY**

**Caterpillar Reman Powertrain Indiana, Inc.  
751 International Drive  
Franklin, Indiana 46131**

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

**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. 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 2-8 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Indiana statutes from IC 13 and rules from 326 IAC, quoted in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a FESOP under 326 IAC 2-8.

Operation Permit No.: F081-28719-00056	
Original Signed by:  Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: May 20, 2010   Expiration Date: May 20, 2015

First Minor Permit Revision No.: 081-30269-00056	
Issued by:  Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: April 27, 2011   Expiration Date: May 20, 2015

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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 2-8-3(b)]

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The Permittee owns and operates a stationary remanufacturers engine parts.

Source Address:	751 International Drive, Franklin, Indiana 46131
General Source Phone Number:	317-346-3200
SIC Code:	3519
County Location:	Johnson
Source Location Status:	Attainment for Ozone under the 8-hour standard Nonattainment for PM2.5 standard Attainment for all other criteria pollutants
Source Status:	Federally Enforceable State Operating Permit Program Minor Source, under PSD and Emission Offset Rules Minor Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

### A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

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

- (a) One (1) paint spray booth, identified as PB#1, constructed in 2006, controlled by dry particulate filters, exhausting to a stack identified as SPB-1 and venting to atmosphere, capacity; 120 engines per day, 36,000 engines per year.
- (b) Miscellaneous solvents and plant wide VOC containing material usage not covered elsewhere, identified as P001.
- (c) Cold solvent degreasing, collectively identified as P002.
  - (1) Ten (10) agitating cold solvent cleaners, identified as CC-1 – CC-6 and CC-8 – CC-11, installed in 2006, with a maximum capacity of 0.7 gallon per day, each.
  - (2) One (1) maintenance agitating cold solvent cleaner, identified as CC-7, installed in 2006, with a maximum capacity of 0.5 gallon per day.
  - (3) Three (3) cold solvent cleaning sinks with remote solvent reservoirs, identified as CC12 – CC14, installed in 2006, with a maximum capacity of 0.3 gallon per day, each.
  - (4) Five (5) agitating cold solvent cleaners, identified as AAC-1 – AAC-5, installed in 2006, with a maximum capacity of 0.6 gallon per day, each.
  - (5) Eight (8) calibration fluid cold solvent cleaners, identified as CCC-1 – CCC-8, installed in 2006, with a maximum capacity of 1.2 gallon per day, each.
  - (6) One (1) agitating cold solvent cleaner, identified as CC - 170A, constructed in 2007, with a maximum capacity of 2 gallons per day.

- (d) Detergent parts washer, collectively identified as P008.
  - (1) One (1) three stage, detergent parts washer, identified as I-6 Parts Washer, constructed in 2007, using organic solvents.
- (e) Natural gas combustion fired combustions sources, collectively identified as P003.
  - (1) One (1) air make-up unit, installed in 2006, with a rated capacity of 10.40 million British thermal units per hour
  - (2) One (1) Cambridge air make-up unit, installed in 2006, with a rated capacity of 3 million British thermal units per hour.
  - (3) Two (2) Thermadeck air make-up units, installed in 2006, with a rated capacity of 5.83 million British thermal units per hour, each.
  - (4) Three (3) air curtains, installed in 2006, with a rated capacity of 9.5 million British thermal units per hour, each.
  - (5) One (1) office boiler, installed in 2006, with a rated capacity of 0.64 million British thermal units per hour
  - (6) Two (2) unit heaters, installed in 2006, with a rated capacity of 0.15 million British thermal units per hour, each.
  - (7) One (1) unit heater, installed in 2006, with a rated capacity of 0.06 million British thermal units per hour.
  - (8) One (1) break room/ training room furnace, installed in 2006, with a rated capacity of 0.4 million British thermal units per hour.
  - (9) One (1) office furnace, installed in 2006, with a rated capacity of 0.06 million British thermal units per hour.
  - (10) Eleven (11) infrared unit heaters, installed in 2006, with a rated capacity of 0.7 million British thermal units per hour, each.
  - (11) Three (3) infrared unit heaters, installed in 2006, with a rated capacity of 0.3 million British thermal units per hour.
  - (12) Two (2) engine block washers (#1 and #2), installed in 2006, with a rated capacity of 0.225 million British thermal units per hour, each.
  - (13) One (1) Disa Goff hydropulse parts washer, installed in 2006, with a rated capacity of 0.5 million British thermal units per hour.
  - (14) One (1) Hotsy spray washer, installed in 2006, with a rated capacity of 0.687 million British thermal units per hour.
- (f) Eight (8) diesel-powered engine test cells (dynos), collectively identified as P004, with a combined capacity of 120 engines per day, 36,000 engines per year, are designed to meet or exceed the 1987 EPA national vehicle emission standards of 0.024 lb NOx/hr-hr or 3.44 lb NOx/MMBtu.
  - (1) Seven (7) diesel-powered engine test cells (dynos), individually identified as E-1

- E-6 and E-8, installed in 2006, each rated at a maximum output of 275 horsepower, individually exhausting to stacks identified as P004-1 – P004-6 and P004-8 and venting to the atmosphere.
- (2) One (1) diesel-powered engine test cell (dyno), individually identified as E-7, constructed in 2007, rated at a maximum output of 600 horsepower, individually exhausting to stack P004-7 and venting to the atmosphere.
- (g) Natural Gas Fired Burn-off Ovens with Afterburners, collectively identified as P005.
  - (1) Five (5) Large Burn-off Ovens, identified as O-1, O-2, O-5, O-10, and O-11, installed in 2006, each rated at 1.2 million British thermal units per hour, each equipped with afterburners rated at 1.2 million British thermal units per hour, individually exhausting to stacks P005-1, P005-2, P005-5, P005-10, and P005-11 and venting to atmosphere, capacity; 4,000 pounds per hour of engine parts and 50 pounds per hour of oily residue, each.
  - (2) Two (2) Medium Burn-off Ovens, identified as O-6 and O-7, installed in 2006, each rated at 0.35 million British thermal units per hour, each equipped with afterburners rated at 0.35 million British thermal units per hour, individually exhausting to stacks P005-6 and P005-7 and venting to atmosphere, capacity; 2,500 pounds per hour of engine parts and 20 pounds per hour of oily residue, each.
  - (3) One (1) Small Burn-off Oven, identified as O-3, installed in 2006, rated at 0.2 million British thermal units per hour, equipped with an afterburner rated at 0.2 million British thermal units per hour, exhausting to stack P005-3 and venting to atmosphere, capacity; 200 pounds per hour of engine parts and 7 pounds per hour of oily residue.
- (h) Abrasive blasting and grinding, collectively identified as P006
  - (1) Two (2) steel shot abrasive blasting facilities, identified as SSB#2 and SSB#8, installed in 2006, each equipped with one (1) of two (2) dust collectors, SSB#2 exhausts to SVSSB#2 and SSB#8 exhausts to SVSSB#8, both then exhausting to combined stack Teardown Drop Box Stack #1, capacity; 72,000 pounds of abrasive per hour, each.
  - (2) One (1) steel shot abrasive blasting facilities, identified as SSB#1, installed in 2006, equipped with a dust collector, exhausting to SVSSB#1 then combined stack Teardown Drop Box Stack #1, capacity; 72,000 pounds of abrasive per hour.
  - (3) One (1) steel shot abrasive blasting facility, identified as SSB#4, installed in 2006, equipped with one (1) dust collector, exhausting into the building, capacity; 24,000 pounds of abrasive per hour.
  - (4) One (1) steel shot abrasive blasting facility, identified as SSB#5, installed in 2006, equipped with a dust collector, exhausting to SVSSB#5 then Turbo Drop Box Stack #1, capacity; 36,000 pounds of abrasive per hour.
  - (5) One (1) steel shot abrasive blasting facility, identified as SSB#7, installed in 2006, equipped with a dust collector, exhausting into the building, capacity; 12,000 pounds of abrasive per hour.
  - (6) Six (6) pneumatic glass bead abrasive facilities, identified as GBB#4, GBB#5,

GBB#6, GBB#7, GBB#8, and GBB#9, installed in 2006, each equipped with one (1) of six (6) dust collectors, exhausting into the building, capacity; 196.97 pounds of abrasive per hour, each.

- (7) Three (3) pneumatic glass bead abrasive facilities, identified as GBB#1, GBB#2, and GBB#3, installed in 2006, each equipped with one (1) of three (3) dust collectors, exhausting into the building, capacity; 196.97 pounds of abrasive per hour, each.
  - (8) One (1) pneumatic glass bead abrasive facility, identified as GBB#10, installed in 2006, equipped with one (1) dust collector, exhausting into the building, capacity; 321.82 pounds of abrasive per hour, each.
  - (9) Two (2) pneumatic glass bead abrasive facilities, identified as GBB#11 and GBB#12, installed in 2006, each equipped with one (1) of two (2) dust collectors, exhausting into the building, capacity; 67.55 pounds of abrasive per hour, each.
  - (10) Two (2) manual plastic bead abrasive blasting facilities, identified as PBB#1 and PBB#6, installed in 2006, each equipped with one (1) of two (2) dust collectors, exhausting into the building, capacity; 212.12 pounds of abrasive per hour, each.
  - (11) Five (5) manual plastic bead abrasive blasting facilities, identified as PBB#2 through PBB#5 and PBB#7, installed in 2006, each equipped with one (1) of five (5) dust collectors, exhausting into the building, capacity; 128.79 pounds of abrasive per hour, each.
  - (12) One (1) grinding booth, identified as RB#1, installed in 2006, equipped with a dust collector, exhausting into the building, capacity; 480 pounds of engine parts per day.
  - (13) One (1) manual plastic bead abrasive blasting facility, identified as PBB#8, constructed in 2007, equipped with one (1) dust collector, exhausting into the building, capacity; 212.12 pounds of abrasive per hour.
- (i) Welding Operations, collectively known as P007, installed in 2006, with a maximum capacity of 250 pounds of electrode per day, total.
  - (j) Flame Spray Unit, identified as FS-1, constructed in 2010, approved for modification in 2011, maximum capacity of 43,800 units per year, materials used for the spraying are 1080 steel powder and nickel/aluminum alloy powder, controlled by a dust collector, exhausting to stack FSDC-1.

Under 40 CFR Part 63, Subpart WWWW, this unit is considered an affected source.

### A.3 Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-8-3(c)(3)(I)]

This stationary source also includes the following insignificant activities:

- (a) Activities associated with emergencies, including the following: emergency generators: Natural Gas turbines or reciprocating engines not exceeding sixteen thousand (16,000) horsepower.
  - (1) Emergency Natural Gas-fired Generator #1, identified as ENGG-1, approved for installation in 2010, 4-stroke rich-burn reciprocating internal combustion engine, lean mix, maximum capacity of 80 hp, 500 hours per year, exhausting to stack ENGGSV-1 with no control.

This unit is considered an affected source under 40 CFR 60, Subpart JJJJ and 40 CFR 63, Subpart ZZZZ.

- (b) Combustion related activities, including the following:
  - (1) Propane or Liquefied petroleum gas, or butane-fired combustion sources with heat input equal to or less than six million (6,000,000) Btu per hour.
  - (2) Equipment powered by internal combustion engines of capacity equal to or less than 500,000 Btu/hr, except where total capacity of equipment operated by one stationary source exceeds 2,000,000 Btu/hr.
  - (3) Combustion source flame safety purging on startup.
- (c) Fuel dispensing activities, including the following:
  - (1) A diesel fuel dispensing facility, having a storage capacity less than or equal to (10,000) gallons, and dispensing (3,500) gallons per day or less as follows:
    - (A) One (1) fixed roof cone tank, identified as T1 Diesel, installed in 2005, with a storage capacity of 500 gallons, and a maximum annual throughput of 6,000 gallons.
    - (B) One (1) fixed roof cone tank, identified as T2 Diesel, installed in 2005, with a storage capacity of 2,000 gallon, and a maximum annual throughput of 250,000 gallons.
- (d) The following VOC and HAP storage containers:
  - (1) Storage tanks with capacity less than or equal to 1,000 gallons and annual throughputs equal to or less than 12,000 gallons.
  - (2) Vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids.
- (e) Equipment used exclusively for the following: filling drums, pails, or other packaging containers with lubricating oils, waxes, and greases.
- (f) Machining where an aqueous cutting coolant continuously floods the machining interface.
- (g) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6.
- (h) Cleaners and solvents characterized as follows:
  - (1) having a vapor pressure equal to or less than 2 kilo Pascals; 15mm Hg; or 0.3 psi measured at 38 degrees Centigrade (100 degrees Fahrenheit); or
  - (2) having a vapor pressure equal to or less than 0.7 kilo Pascals; 5mm Hg; or 0.1 psi measured at 20 degrees Centigrade (68 degrees Fahrenheit); the use of which, for all cleaners and solvents combined, does not exceed 145 gallons per 12 months.
- (i) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches soldering equipment, welding equipment.

- (j) Closed loop heating and cooling systems.
- (k) Infrared cure equipment.
- (l) Solvent recycling systems with batch capacity less than or equal to 100 gallons.
- (m) Water based activities, including the following:
  - (1) Activities associated with the treatment of wastewater streams with an oil and grease content less than or equal to 1% by volume.
  - (2) Activities associated with the transportation and treatment of sanitary sewage, provided the discharge to the treatment plant is under the control of the owner or operator, that is, an on-site sewage treatment facility.
  - (3) Any operation using aqueous solutions containing less than 1% VOCs by weight of VOCs excluding HAPs.
  - (4) Water based adhesives that are less than or equal to 5% by volume of VOCs excluding HAPs.
  - (5) Non-contact cooling tower systems with either of the following:
    - (A) Natural draft cooling towers not regulated under a NESHAP
    - (B) Forced and induced draft cooling tower systems not regulated under a NESHAP.
  - (6) Quenching operations used with heat treating processes  
  
Oil, grease, or VOC content shall be determined by a test method acceptable to the department and the U.S. EPA.
- (n) Repair activities, including the following:
  - (1) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment.
  - (2) Heat exchanger cleaning and repair.
- (o) Trimmers that do not produce fugitive emissions and that are equipped with a dust collector or trim material recovery device such as a bag filter or cyclone.
- (p) Paved and unpaved roads and parking lots with public access.
- (q) 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, including the following: purging of gas lines.
- (r) 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.
- (s) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.

- (t) Onsite fire and emergency response training approved by the department.
- (u) Emergency generators as follows:
  - (1) Gasoline generators not exceeding 110 horsepower.
  - (2) Diesel generators not exceeding 1,600 horsepower.
- (v) Other emergency equipment as follows: Stationary fire pumps.
- (w) Grinding and machining operations controlled with fabric filters, scrubbers, mist 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 100 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking.
- (x) Mold release agents using low volatile products (vapor pressure less than or equal to 2 kilopascals measured at 39 degrees Centigrade).
- (y) A laboratory as defined in 326 IAC 2-7-1(21)(D).

A.4 FESOP Applicability [326 IAC 2-8-2]

This stationary source, otherwise required to have a Part 70 permit as described in 326 IAC 2-7-2(a), has applied to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) to renew a Federally Enforceable State Operating Permit (FESOP).

## SECTION B GENERAL CONDITIONS

### B.1 Definitions [326 IAC 2-8-1]

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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 2-8-4(2)][326 IAC 2-1.1-9.5][IC 13-15-3-6(a)]

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- (a) This permit, F081-28719-00056, is issued for a fixed term of ten (10) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. 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, until the renewal permit has been issued or denied.

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

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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 2-8-6] [IC 13-17-12]

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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 2-8-4(4)]

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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 2-8-4(5)(D)]

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

### B.7 Duty to Provide Information [326 IAC 2-8-4(5)(E)]

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- (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. 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 2-8-3(d)][326 IAC 2-8-4(3)(C)(i)][326 IAC 2-8-5(1)]

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- (a) A certification required by this permit meets the requirements of 326 IAC 2-8-5(a)(1) if:

- (i) it contains a certification by an "authorized individual", as defined by 326 IAC 2-1.1-1(1), and
- (ii) the certification states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (b) The Permittee may use the attached Certification Form, or its equivalent with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.
- (c) An "authorized individual" is defined at 326 IAC 2-1.1-1(1).

B.9 Annual Compliance Certification [326 IAC 2-8-5(a)(1)]

- (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 and Enforcement Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

- (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 2-8-4(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 a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

B.10 Compliance Order Issuance [326 IAC 2-8-5(b)]

IDEM, OAQ may issue a compliance order to this Permittee upon discovery that this permit is in nonconformance with an applicable requirement. The order may require immediate compliance or contain a schedule for expeditious compliance with the applicable requirement.

B.11 Preventive Maintenance Plan [326 IAC 1-6-3][326 IAC 2-8-4(9)][326 IAC 2-8-5(a)(1)]

- (a) A Preventive Maintenance Plan meets the requirements of 326 IAC 1-6-3 if it includes, at a minimum:
- (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.

The Permittee shall implement the PMPs.

- (b) If required by specific condition(s) in Section D of this permit where no PMP was previously required, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this permit or ninety (90) days after initial start-up, whichever is later, 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.

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

Indiana Department of Environmental Management  
Compliance and Enforcement Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

The PMP extension notification does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

The Permittee shall implement the PMPs.

- (c) 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. The PMPs and their submittal do not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (d) 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.12 Emergency Provisions [326 IAC 2-8-12]**

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- (a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation except as provided in 326 IAC 2-8-12.

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

- (1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;
- (2) The permitted facility was at the time being properly operated;
- (3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;
- (4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, or Northern Regional Office 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 and Enforcement Branch), or  
Telephone Number: 317-233-0178 (ask for Office of Air Quality, Compliance and Enforcement Branch)  
Facsimile Number: 317-233-6865  
Northern Regional Office phone: (574) 245-4870; fax: (574) 245-4877.

- (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 and Enforcement Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
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 2-8-4(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 a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (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 2-8-3(c)(6) 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 2-8 and any other applicable rules.
- (g) Operations may continue during an emergency only if the following conditions are met:
- (1) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.
- (2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:
- (A) The Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and
- (B) Continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw material of substantial economic value.

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

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

- (a) All terms and conditions of permits established prior to F081-28719-00056 and issued pursuant to permitting programs approved into the state implementation plan have been either:
- (1) incorporated as originally stated,
- (2) revised, or

(3) deleted.

(b) All previous registrations and permits are superseded by this permit.

**B.14 Termination of Right to Operate [326 IAC 2-8-9][326 IAC 2-8-3(h)]**

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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 2-8-3(h) and 326 IAC 2-8-9.

**B.15 Permit Modification, Reopening, Revocation and Reissuance, or Termination  
[326 IAC 2-8-4(5)(C)][326 IAC 2-8-7(a)][326 IAC 2-8-8]**

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- (a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Federally Enforceable State 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 2-8-4(5)(C)] The notification by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (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 2-8-8(a)]
- (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 2-8-8(b)]
- (d) The reopening and revision of this permit, under 326 IAC 2-8-8(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 2-8-8(c)]

**B.16 Permit Renewal [326 IAC 2-8-3(h)]**

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- (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 2-8-3. 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 a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management  
Permit Administration and Support Section, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCM 1003

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 2-8 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, pursuant to 326 IAC 2-8-3(g), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.17 Permit Amendment or Revision [326 IAC 2-8-10][326 IAC 2-8-11.1]

- (a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-8-10 or 326 IAC 2-8-11.1 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  
Permit Administration and Support Section, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

Any such application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.18 Operational Flexibility [326 IAC 2-8-15][326 IAC 2-8-11.1]

- (a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-8-15(b) through (d) without a prior permit revision, if each of the following conditions is met:
- (1) The changes are not modifications under any provision of Title I of the Clean Air Act;
  - (2) Any approval required by 326 IAC 2-8-11.1 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  
Permit Administration and Support Section, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
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 2-8-15(b) through (d). 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 2-8-15(b)(2), (c)(1), and (d).

- (b) **Emission Trades [326 IAC 2-8-15(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 2-8-15(c).
- (c) **Alternative Operating Scenarios [326 IAC 2-8-15(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 2-8-4(7). No prior notification of IDEM, OAQ, or U.S. EPA is required.
- (d) 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.19 Source Modification Requirement [326 IAC 2-8-11.1]**

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A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2.

**B.20 Inspection and Entry [326 IAC 2-8-5(a)(2)][IC 13-14-2-2][IC 13-17-3-2][IC 13-30-3-1]**

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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 FESOP 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, at reasonable times, 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, at reasonable times, 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, at reasonable times, 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.21 Transfer of Ownership or Operational Control [326 IAC 2-8-10]

- (a) The Permittee must comply with the requirements of 326 IAC 2-8-10 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  
Permit Administration and Support Section, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251  
  
Any such application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.22 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-8-4(6)] [326 IAC 2-8-16][326 IAC 2-1.1-7]

- (a) The Permittee shall pay annual fees to IDEM, OAQ no later than 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) 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.23 Credible Evidence [326 IAC 2-8-4(3)][326 IAC 2-8-5][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 2-8-4(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 Overall Source Limit [326 IAC 2-8]

The purpose of this permit is to limit this source's potential to emit to less than major source levels for the purpose of Section 502(a) of the Clean Air Act.

(a) Pursuant to 326 IAC 2-8:

- (1) The potential to emit any regulated pollutant, except particulate matter (PM), from the entire source shall be limited to less than one hundred (100) tons per twelve (12) consecutive month period.
- (2) The potential to emit any individual hazardous air pollutant (HAP) from the entire source shall be limited to less than ten (10) tons per twelve (12) consecutive month period; and
- (3) The potential to emit any combination of HAPs from the entire source shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period.

(b) Pursuant to 326 IAC 2-2 (PSD), potential to emit particulate matter (PM) from the entire source shall be limited to less than two hundred fifty (250) tons per twelve (12) consecutive month period.

(c) This condition shall include all emission points at this source including those that are insignificant as defined in 326 IAC 2-7-1(21). The source shall be allowed to add insignificant activities not already listed in this permit, provided that the source's potential to emit does not exceed the above specified limits.

(d) Section D of this permit contains independently enforceable provisions to satisfy this requirement.

#### C.3 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-1 (Applicability) and 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.4 Open Burning [326 IAC 4-1] [IC 13-17-9]**

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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.

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

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The Permittee shall not operate an incinerator except as provided in 326 IAC 4-2 or in this permit. The Permittee shall not operate a refuse incinerator or refuse burning equipment except as provided in 326 IAC 9-1-2 or in this permit.

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

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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).

**C.7 Stack Height [326 IAC 1-7]**

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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.

**C.8 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]**

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- (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  
Compliance and Enforcement Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
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 that meets the requirements of 326 IAC 2-8(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (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 Licensed 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 Licensed Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos.

### **Testing Requirements [326 IAC 2-8-4(3)]**

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

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- (a) For performance testing required by this permit, a test protocol, except as provided elsewhere in this permit, shall be submitted to:  
  
Indiana Department of Environmental Management  
Compliance and Enforcement Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
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 a certification that meets the requirements of 326 IAC 2-8(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (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 a certification that meets the requirements of 326 IAC 2-8(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (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.10 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 2-8-4][326 IAC 2-8-5(a)(1)]**

#### **C.11 Compliance Monitoring [326 IAC 2-8-4(3)][326 IAC 2-8-5(a)(1)]**

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Unless otherwise specified in this permit, for all monitoring requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or of initial start-up, whichever is later, to begin such monitoring. If due to circumstances beyond the Permittee's control, any monitoring equipment required by this permit cannot be installed and operated no later than ninety (90) days after permit issuance or the date of initial startup, whichever is later, 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 and Enforcement Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
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 a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units or emission units added through a permit revision shall be implemented when operation begins.

#### **C.12 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-8-4(3)][326 IAC 2-8-5(1)]**

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- (a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale.
- (b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an alternative instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

### **Corrective Actions and Response Steps [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]**

#### **C.13 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 shall maintain the most recently submitted written emergency reduction plans (ERPs) consistent with safe operating procedures.

- (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.14 Risk Management Plan [326 IAC 2-8-4] [40 CFR 68]

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.15 Response to Excursions or Exceedances [326 IAC 2-8-4] [326 IAC 2-8-5]

Upon detecting an excursion where a response step is required by the D Section or an exceedance of a limitation in this permit:

- (a) The Permittee shall take reasonable response steps to 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 excess emissions.
- (b) The response shall include minimizing the period of any startup, shutdown or malfunction. The response may include, but is not limited to, the following:
  - (1) initial inspection and evaluation;
  - (2) recording that operations returned or are returning 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 normal or usual manner of operation.
- (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; and/or
  - (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 record the reasonable response steps taken.

C.16 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-8-4][326 IAC 2-8-5]

- (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 submit a description of its response actions to IDEM, OAQ, no later than seventy-five (75) days after the date of the test.
- (b) A retest to demonstrate compliance shall be performed no later than one hundred eighty (180) days after the date of the test. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred eighty (180) 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 a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

### **Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]**

#### **C.17 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]**

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- (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, for all record keeping requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or the date of initial start-up, whichever is later, to begin such record keeping.

#### **C.18 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]**

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- (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 except that 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. This report shall be submitted not later than thirty (30) days after the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.
- (b) The address for report submittal is:  
  
Indiana Department of Environmental Management  
Compliance and Enforcement Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
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) 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.

## **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 applicable standards for recycling and emissions reduction.

## SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

### Emissions Unit Description:

- (a) One (1) paint spray booth, identified as PB#1, constructed in 2005, controlled by dry particulate filters, exhausting to a stack identified as SPB-1 and venting to atmosphere, capacity; 120 engines per day, 36,000 engines per year.
- (b) Miscellaneous solvents and plant wide VOC containing material usage not covered elsewhere, identified as P001.

(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 2-8-4(1)]

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

Pursuant to 326 IAC 6-3-2(d), particulate from paint spray booth PB#1 shall be controlled by a dry particulate filter, waterwash, or an equivalent control device, and the Permittee shall operate the control device in accordance with manufacturer's specifications.

#### D.1.2 Volatile Organic Compounds (VOC) [326 IAC 8-2-9]

Pursuant to 326 IAC 8-2-9, the owner or operator 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 applicator of PB#1.

#### D.1.3 Volatile Organic Compound (VOC) Limitations, Clean-up Requirements [326 IAC 8-2-9]

Pursuant to 326 IAC 8-2-9(f), all solvents sprayed from the application equipment of PB#1 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.1.4 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan is required for this facility and its control device. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

### Compliance Determination Requirements

#### D.1.5 Volatile Organic Compounds (VOC) [326 IAC 8-1-2][326 IAC 8-1-4]

Compliance with the VOC content limitation contained in Condition D.1.2 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) using formulation data supplied by the coating manufacturer. 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 2-8-4][326 IAC 2-8-5(a)(1)]

#### D.1.6 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 particulate filters, weekly observations shall be made of the overspray from the one (1) paint spray booth stack SPB-1 while the booth is 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 stack 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 Requirement [326 IAC 2-8-4(3)] [326 IAC 2-8-16]**

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

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- (a) To document the compliance status with Condition D.1.2, the Permittee shall maintain records in accordance with (1) through (4) below. Records maintained for (1) through (4) shall be taken as stated below and shall be complete and sufficient to establish compliance with the VOC usage limit established in Condition D.1.2.
- (1) The VOC content of each coating material and solvent used, less water.
- (2) The amount of coating material and solvent 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.
- (C) In the event only a single coating is used, MSDS sheets or manufacturer's information would suffice to demonstrate compliance with D.1.2 in lieu of tracking the amount of coating material.
- (3) The cleanup solvent usage for each month.
- (4) The total VOC usage for each month; and
- (5) The weight of the VOCs emitted for each compliance period.
- (b) To document the compliance status with Condition D.1.6, the Permittee shall maintain a log of weekly overspray observations, daily and monthly inspections.
- (c) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by this condition.

## SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

### Emissions Unit Description [326 IAC 2-8-4(10)]:

- (c) Cold solvent degreasing, collectively identified as P002.
  - (1) Ten (10) agitating cold solvent cleaners, identified as CC-1 – CC-6 and CC-8 – CC-11, installed in 2006, with a maximum capacity of 0.7 gallon per day, each.
  - (2) One (1) maintenance agitating cold solvent cleaner, identified as CC-7, installed in 2006, with a maximum capacity of 0.5 gallon per day.
  - (3) Three (3) cold solvent cleaning sinks with remote solvent reservoirs, identified as CC12 – CC14, installed in 2006, with a maximum capacity of 0.3 gallon per day, each.
  - (4) Five (5) agitating cold solvent cleaners, identified as AAC-1 – AAC-5, installed in 2006, with a maximum capacity of 0.6 gallon per day, each.
  - (5) Eight (8) calibration fluid cold solvent cleaners, identified as CCC-1 – CCC-8, installed in 2006, with a maximum capacity of 1.2 gallon per day, each.
  - (6) One (1) agitating cold solvent cleaner, identified as CC-170A, constructed in 2007, with a maximum capacity of 2.0 gallons per day.
- (d) Detergent parts washer, collectively identified as P008.
  - (1) One (1) three stage, detergent parts washer, identified as I-6 Parts Washer, constructed in 2007, using organic solvents.

(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 2-8-4(1)]

#### D.2.1 Volatile Organic Compounds (VOC) [326 IAC 8-3-2]

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations), for cold cleaning operations constructed after January 1, 1980, the Permittee shall:

- (a) Equip the cleaner with a cover;
- (b) Equip the cleaner with a facility for draining cleaned parts;
- (c) Close the degreaser cover whenever parts are not being handled in the cleaner;
- (d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;
- (e) Provide a permanent, conspicuous label summarizing the operation requirements;
- (f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

#### D.2.2 Volatile Organic Compounds (VOC) [326 IAC 8-3-5]

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- (a) Pursuant to 326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control), for cold cleaner degreaser operations without remote solvent reservoirs constructed after July 1, 1990, the Permittee shall ensure that the following control equipment requirements are met:
- (1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:
    - (A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius ( $38^{\circ}\text{C}$ ) (one hundred degrees Fahrenheit ( $100^{\circ}\text{F}$ ));
    - (B) The solvent is agitated; or
    - (C) The solvent is heated.
  - (2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius ( $38^{\circ}\text{C}$ ) (one hundred degrees Fahrenheit ( $100^{\circ}\text{F}$ )), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.
  - (3) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).
  - (4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.
  - (5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius ( $38^{\circ}\text{C}$ ) (one hundred degrees Fahrenheit ( $100^{\circ}\text{F}$ )), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius ( $48.9^{\circ}\text{C}$ ) (one hundred twenty degrees Fahrenheit ( $120^{\circ}\text{F}$ )):
    - (A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
    - (B) A water cover when solvent is used is insoluble in, and heavier than, water.
    - (C) Other systems of demonstrated equivalent control such as a refrigerated chiller or carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.
- (b) Pursuant to 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), for cold cleaning facility construction of which commenced after July 1, 1990, the Permittee shall ensure that the following operating requirements are met:
- (1) Close the cover whenever articles are not being handled in the degreaser.

- (2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.
- (3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

### SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS

#### Emissions Unit Description [326 IAC 2-8-4(10)]:

- (e) Natural gas combustion fired combustions sources, collectively identified as P003.
- (1) One (1) air make-up unit, installed in 2006, with a rated capacity of 10.40 million British thermal units per hour
  - (2) One (1) Cambridge air make-up unit, installed in 2006, with a rated capacity of 3 million British thermal units per hour.
  - (3) Two (2) Thermadeck air make-up units, installed in 2006, with a rated capacity of 5.83 million British thermal units per hour, each.
  - (4) Three (3) air curtains, installed in 2006, with a rated capacity of 9.5 million British thermal units per hour, each.
  - (5) One (1) office boiler, installed in 2006, with a rated capacity of 0.64 million British thermal units per hour
  - (6) Two (2) unit heaters, installed in 2006, with a rated capacity of 0.15 million British thermal units per hour, each.
  - (7) One (1) unit heater, installed in 2006, with a rated capacity of 0.06 million British thermal units per hour.
  - (8) One (1) break room/ training room furnace, installed in 2006, with a rated capacity of 0.4 million British thermal units per hour.
  - (9) One (1) office furnace, installed in 2006, with a rated capacity of 0.06 million British thermal units per hour.
  - (10) Eleven (11) infrared unit heaters, installed in 2006, with a rated capacity of 0.7 million British thermal units per hour, each.
  - (11) Three (3) infrared unit heaters, installed in 2006, with a rated capacity of 0.3 million British thermal units per hour.
  - (12) Two (2) engine block washers (#1 and #2), installed in 2006, with a rated capacity of 0.225 million British thermal units per hour, each.
  - (13) One (1) Disa Goff hydropulse parts washer, installed in 2006, with a rated capacity of 0.5 million British thermal units per hour.
  - (14) One (1) Hotsy spray washer, installed in 2006, with a rated capacity of 0.687 million British thermal units per hour.

(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 2-8-4(1)]**

### **D.3.1 Particulate Matter (PM) [326 IAC 6-2-4]**

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Pursuant to 326 IAC 6-2-4(a) (Particulate Matter Emission Limitations for Sources of Indirect Heating for Specified Facilities), the PM emissions from the one (1) office boiler rated at 0.64 million Btu per hour shall not exceed 0.6 pounds of particulate matter per million Btu heat input.

## SECTION D.4

## EMISSIONS UNIT OPERATION CONDITIONS

### Emissions Unit Description [326 IAC 2-8-4(10)]:

- (f) Eight (8) diesel-powered engine test cells (dynos), collectively identified as P004, with a combined capacity of 120 engines per day, 36,000 engines per year, are designed to meet or exceed 1987 EPA national vehicle emission standards of 0.024 lb NO<sub>x</sub>/hr-hr or 3.44 lb NO<sub>x</sub>/MMBtu.
- (1) Seven (7) diesel-powered engine test cells (dynos), individually identified as E-1 – E-6 and E-8, installed in 2006, each rated at a maximum output of 275 horsepower, individually exhausting to stacks identified as P004-1 – P004-6 and P004-8 and venting to the atmosphere.
- (2) One (1) diesel-powered engine test cell (dyno), individually identified as E-7, constructed in 2007, rated at a maximum output of 600 horsepower, individually exhausting to stack P004-7 and venting to the atmosphere.

(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 2-8-4(1)]

#### D.4.1 NO<sub>x</sub> FESOP Limit [326 IAC 2-8]

Pursuant to 326 IAC 2-8, the input of diesel fuel to the eight (8) diesel-powered engine test cells, known collectively as P004, shall be limited to less than 252,920 gallons per twelve (12) consecutive month period with compliance determined at the end of each month.

The NO<sub>x</sub> emissions from the eight diesel-powered test cells (P004) shall not exceed 0.47 pounds of NO<sub>x</sub> per gallon of diesel fuel.

These limitations equate to the emission rate established for P004 as follows:

Emission Unit	Emission Rate (lbs NO <sub>x</sub> /gal diesel fuel)	Annual Fuel Limit (gal)	NO <sub>x</sub> Emissions (tpy)
Dynos E-1 thru E-8	0.47	252,920	59.60

Compliance with the above limit, combined with the potential to emit NO<sub>x</sub> from the other emission units at the source, shall limit the NO<sub>x</sub> from the entire source to less than 100 tons per twelve (12) consecutive month period and render 326 IAC 2-7, Part 70, and 326 IAC 2-2, Prevention of Significant Deterioration (PSD) not applicable.

### Compliance Determination Requirements

#### D.4.2 Testing Requirements [326 IAC 2-8-1(a)(1),(4)][326 IAC 2-1.1-11]

In order to demonstrate compliance with Condition D.4.1, the Permittee shall perform Nitrogen Oxides (NO<sub>x</sub>) testing for two (2) of the Diesel Powered Engine Test Cells (E-1 – E-8) utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

## **Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]**

### **D.4.3 Visible Emissions Notations**

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- (a) Visible emission notations of the engine test cell stack exhausts shall be performed once per working day during normal daylight operations when exhausted to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) 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 2-8-4(3)] [326 IAC 2-8-16]**

### **D.4.4 Record Keeping Requirements**

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- (a) To document the compliance status with Condition D.4.1, the Permittee shall maintain records for the engine test cells and engine attribute cells in accordance with (1) through (3) below.
  - (1) Calendar dates covered in the compliance determination period;
  - (2) Actual diesel fuel usage since last compliance determination period;
  - (3) A certification, signed by the owner or operator, that the records of the fuel supplier certifications represent all of the fuel combusted during the period.

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 the compliance status with Condition D.4.3, the Permittee shall maintain records of daily visible emission notations of the engine test cells stack exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).
- (c) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligation with regard to the records required by this condition.

#### D.4.5 Reporting Requirements

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A quarterly summary of the information to document the compliance status with Condition D.4.1 shall be submitted not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meet the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

## SECTION D.5

## EMISSIONS UNIT OPERATION CONDITIONS

### Emissions Unit Description [326 IAC 2-8-4(10)]:

- (g) Natural Gas Fired Burn-off Ovens with Afterburners, collectively identified as P005.
- (1) Five (5) Large Burn-off Ovens, identified as O-1, O-2, O-5, O-10, and O-11, installed in 2006, each rated at 1.2 million British thermal units per hour, each equipped with afterburners rated at 1.2 million British thermal units per hour, individually exhausting to stacks P005-1, P005-2, P005-5, P005-10, and P005-11 and venting to atmosphere, capacity; 4,000 pounds per hour of engine parts and 50 pounds per hour of oily residue, each.
  - (2) Two (2) Medium Burn-off Ovens, identified as O-6 and O-7, installed in 2006, each rated at 0.35 million British thermal units per hour, each equipped with afterburners rated at 0.35 million British thermal units per hour, individually exhausting to stacks P005-6 and P005-7 and venting to atmosphere, capacity; 2,500 pounds per hour of engine parts and 20 pounds per hour of oily residue, each.
  - (3) One (1) Small Burn-off Oven, identified as O-3, installed in 2006, rated at 0.2 million British thermal units per hour, equipped with an afterburner rated at 0.2 million British thermal units per hour, exhausting to stack P005-3 and venting to atmosphere, capacity; 200 pounds per hour of engine parts and 7 pounds per hour of oily residue.

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

### D.5.1 Incinerators [326 IAC 4-2-2]

Pursuant to 326 IAC 4-2-2 (Incinerators: Requirements), the natural gas fired burn-off ovens (O-1, O-2, O-3, O-5, O-6, O-7, O-10 and O-11) shall comply with the following:

- (a) The incinerator shall comply with the following requirements:
  - (1) Consist of primary and secondary chambers or the equivalent.
  - (2) Be equipped with a primary burner unless burning only wood products.
  - (3) Comply with 326 IAC 5-1 and 326 IAC 2.
  - (4) Be maintained, operated, and burn waste in accordance with the manufacturer's specifications or an operation and maintenance plan as specified in paragraph (c) of this condition.
  - (5) Not emit particulate matter in excess of five-tenths (0.5) pound of particulate matter per one thousand (1,000) pounds of dry exhaust gas under standard conditions corrected to fifty percent (50%) excess air.
  - (6) If any of the requirements of (1) through (5) are not met, then the Permittee shall stop charging the incinerator until adjustments are made that address the underlying cause of the deviation.
- (b) A Permittee developing an operation and maintenance plan pursuant to paragraph (a)(4) of this condition must comply with the following:

- (1) The operation and maintenance plan must be designed to meet the particulate matter emission limitation specified in paragraph (a)(5) of this condition and include the following:
    - (A) Procedures for receiving, handling, and charging waste.
    - (B) Procedures for incinerator startup and shutdown.
    - (C) Procedures for responding to a malfunction.
    - (D) Procedures for maintaining proper combustion air supply levels.
    - (E) Procedures for operating the incinerator and associated air pollution control systems.
    - (F) Procedures for handling ash.
    - (G) A list of wastes that can be burned in the incinerator.
  - (2) Each incinerator operator shall review the plan before initial implementation of the operation and maintenance plan and annually thereafter.
  - (3) The operation and maintenance plan must be readily accessible to incinerator operators.
  - (4) The Permittee shall notify the department, in writing, thirty (30) days after the operation and maintenance plan is initially developed pursuant to this section.
- (c) The Permittee shall make the manufacturer's specifications or the operation and maintenance plan available to the department upon request.

D.5.2 Carbon monoxide Emission Limits [326 IAC 9-1-2]

Pursuant to 326 IAC 9-1-2(a)(3), the Permittee shall not operate burn-off ovens (O-1, O-2, O-3, O-5, O-6, O-7, O-10 and O-11) unless the waste gas stream is burned in one (1) of the following:

- (a) Direct-flame afterburner.
- (b) Secondary chamber.

## SECTION D.6

## EMISSIONS UNIT OPERATION CONDITIONS

### Emissions Unit Description [326 IAC 2-8-4(10)]:

- (h) Abrasive blasting and grinding, collectively identified as P006, as follows:
- (1) Two (2) steel shot abrasive blasting facilities, identified as SSB#2 and SSB#8, installed in 2006, each equipped with one (1) of two (2) dust collectors, SSB#2 exhausts to SVSSB#2 and SSB#8 exhausts to SVSSB#8, both then exhausting to combined stack Teardown Drop Box Stack #1, capacity; 72,000 pounds of abrasive per hour.
  - (2) One (1) steel shot abrasive blasting facilities, identified as SSB#1, installed in 2006, equipped with a dust collector, exhausting to SVSSB#1 then combined stack Teardown Drop Box Stack #1, capacity; 72,000 pounds of abrasive per hour.
  - (3) One (1) steel shot abrasive blasting facility, identified as SSB#4, installed in 2006, equipped with one (1) dust collector, exhausting into the building, capacity; 24,000 pounds of abrasive per hour.
  - (4) One (1) steel shot abrasive blasting facility, identified as SSB#5, installed in 2006, equipped with a dust collector, exhausting to SVSSB#5 then Turbo Drop Box Stack #1, capacity; 36,000 pounds of abrasive per hour.
  - (5) One (1) steel shot abrasive blasting facility, identified as SSB#7, installed in 2006, equipped with a dust collector, exhausting into the building, capacity; 12,000 pounds of abrasive per hour.
  - (6) Six (6) pneumatic glass bead abrasive facilities, identified as GBB#4, GBB#5, GBB#6, GBB#7, GBB#8, and GBB#9, installed in 2006, each equipped with one (1) of six (6) dust collectors, exhausting into the building, capacity; 196.97 pounds of abrasive per hour, each.
  - (7) Three (3) pneumatic glass bead abrasive facilities, identified as GBB#1, GBB#2, and GBB#3, installed in 2006, each equipped with one (1) of three (3) dust collectors, exhausting into the building, capacity; 196.97 pounds of abrasive per hour, each.
  - (8) One (1) pneumatic glass bead abrasive facility, identified as GBB#10, installed in 2006, equipped with one (1) dust collector, exhausting into the building, capacity; 321.82 pounds of abrasive per hour, each.
  - (9) Two (2) pneumatic glass bead abrasive facilities, identified as GBB#11 and GBB#12, installed in 2006, each equipped with one (1) of two (2) dust collectors, exhausting into the building, capacity; 67.55 pounds of abrasive per hour, each.
  - (10) Two (2) manual plastic bead abrasive blasting facilities, identified as PBB#1 and PBB#6, installed in 2006, each equipped with one (1) of two (2) dust collectors, exhausting into the building, capacity; 212.12 pounds of abrasive per hour, each.
  - (11) Five (5) manual plastic bead abrasive blasting facilities, identified as PBB#2 through PBB#5 and PBB#7, installed in 2006, each equipped with one (1) of five (5) dust collectors, exhausting into the building, capacity; 128.79 pounds of abrasive per hour, each.

- (12) One (1) grinding booth, identified as RB#1, installed in 2006, equipped with a dust collector, exhausting into the building, capacity; 480 pounds of engine parts per day.
- (13) One (1) manual plastic bead abrasive blasting facility, identified as PBB#8, constructed in 2007, equipped with one (1) dust collector, exhausting into the building, capacity; 212.12 pounds of abrasive per hour.
- (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 2-8-4(1)]**

**D.6.1 FESOP Minor Limit Particulate Matter (PM10) [326 IAC 2-8] [326 IAC 2-2] [326 IAC 2-1.1-5]**

Pursuant to 326 IAC 2-8, the Permittee shall limit PM10 and PM2.5 emissions as follows:

Unit	PM10 Limit Per Unit (lb/hr)	PM10 Limit per Unit (tons per year)	PM2.5 Limit Per Unit (lb/hr)	PM2.5 Limit Per Unit (tons per year)
SSB#7	0.68	6.75	0.68	6.75
SSB#4	0.80	3.44	0.80	3.44
SSB#5	0.80	3.44	0.80	3.44
SSB#2	1.83	5.79	1.83	5.79
SSB#1	1.60	6.87	1.60	6.87
SSB#8	1.60	6.87	1.60	6.87
GBB#1	0.02	0.02	0.02	0.02
GBB#2	0.02	0.02	0.02	0.02
GBB#3	0.02	0.02	0.02	0.02
GBB#4	0.03	0.05	0.03	0.05
GBB#5	0.03	0.05	0.03	0.05
GBB#6	0.03	0.05	0.03	0.05
GBB#7	0.03	0.05	0.03	0.05
GBB#8	0.03	0.05	0.03	0.05
GBB#9	0.03	0.05	0.03	0.05
GBB#10	0.04	0.06	0.04	0.06
GBB#11	0.04	0.06	0.04	0.06
GBB#12	0.04	0.06	0.04	0.06
PBB#1	0.02	0.04	0.02	0.04
PBB#2	0.02	0.04	0.02	0.04
PBB#3	0.04	0.06	0.04	0.06
PBB#4	0.04	0.06	0.04	0.06
PBB#5	0.04	0.06	0.04	0.06
PBB#6	0.04	0.06	0.04	0.06
PBB#7	0.04	0.06	0.04	0.06
PBB#8	1.48	6.50	1.48	6.50

Compliance with these limits, combined with the potential PM10 and PM2.5 emissions from all other emission units at this source will limit the source-wide total potential to emit of PM10 and PM2.5 to less than 100 tons per 12 consecutive month period and will render 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (PSD), and 326 IAC 2-1.1-5 (Air Quality Requirements) not applicable.

**D.6.2 Particulate Matter (PM) [326 IAC 6-3-2] [326 IAC 2-2]**

Pursuant to, 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes) the particulate emissions from abrasive blasting and grinding (P006) shall not exceed the pound per

hour emission rate established as E in the following formula:

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 = process weight rate in tons per hour

The emissions rate E has been established for the units as follows:

Units	Process Weight Rate per unit (tons/hour)(each)*	PM Emission Limit per unit (lbs/hr) (each)
SSB#2	1	4.10
SSB#8	1	4.10
SSB#1	0.75	3.38
SSB#4	0.33	1.95
SSB#5	0.33	1.95
SSB#7	0.1	0.88
GBB#4	0.025	0.35
GBB#5	0.025	0.35
GBB#6	0.025	0.35
GBB#7	0.025	0.35
GBB#8	0.025	0.35
GBB#9	0.025	0.35
GBB#1	0.0125	0.22
GBB#2	0.0125	0.22
GBB#3	0.0125	0.22
GBB#10	0.025	0.35
GBB#11	0.025	0.35
GBB#12	0.025	0.35
PBB#1	0.36	2.07
PBB#6	0.36	2.07
PBB#8	0.36	2.07
PBB#2	0.015	0.246
PBB#3	0.015	0.246
PBB#4	0.015	0.246
PBB#5	0.015	0.246
PBB#7	0.015	0.246
RB#1	0.01	0.19

\*Process Weight Rate includes weight of shot.

Compliance with these limits combined with the potential PM emissions from all other emission units at this source will limit the source-wide total potential to emit of PM to less than 250 tons per 12 consecutive month period and will render 326 IAC 2-2 (PSD) not applicable.

**D.6.3 Preventive Maintenance Plan [326 IAC 2-8-4(9)]**

A Preventive Maintenance Plan is required for this facility and its control device. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

## Compliance Determination Requirements

### D.6.4 Particulate Control

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- (a) In order to comply with Conditions D.6.1 and D.6.2, particulate from abrasive blasting and grinding manufacturing processes shall be controlled by dust collectors and the Permittee shall operate the control device in accordance with manufacturer's specifications.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

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

### D.6.5 Visible Emissions Notations

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- (a) Visible emission notations of the shot blast units at the point of exhaust shall be performed once per day during normal daylight operations when exhausting to the outside 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.

### D.6.6 Parametric Monitoring

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The Permittee shall record the pressure drop across the dust collectors controlling the abrasive blasting, and grinding operations (SSB#1, SSB#2, SSB#4, SSB#5, SSB#7 and SSB#8, SB#1, GBB#1 - GBB#12, and PBB#1 – PBB#8), once per day when venting to the outside atmosphere. When for any one reading, the pressure drop across the dust collector is outside the normal range of 1.0 and 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps. Section C- Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ and shall be calibrated at least once every six (6) months.

### D.6.7 Dust Collector Failure Detection

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- (a) For a single compartment baghouse controlling emissions from a process operated

continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

- (b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the line. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

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

#### **D.6.8 Record Keeping Requirements**

- (a) To document the compliance status with Condition D.6.5, the Permittee shall maintain records of the daily visible emission notations of the shot blast stacks exhaust on days when the shot blasters are exhausting to the outside atmosphere. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the process did not operate that day).
- (b) To document the compliance status with Condition D.6.6, the Permittee shall maintain records of the pressure drop across the dust collectors controlling the abrasive blasting, and grinding operations (SSB#1, SSB#2, SSB#4, SSB#5, SSB#7 and SSB#8, SB#1, GBB#1 - GBB#12, and PBB#1 – PBB#8), on days when the shot blasters are exhausting to the outside atmosphere. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the process did not operate that day).
- (c) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by this condition.

## SECTION D.7 EMISSIONS UNIT OPERATION CONDITIONS

### Emissions Unit Description [326 IAC 2-8-4(10)]

- (j) Flame Spray Unit, identified as FS-1, constructed in 2010, approved for modification 2011, maximum capacity of 43,800 units per year, materials used for the spraying are 1080 steel powder and nickel/aluminum alloy powder, controlled by a dust collector, exhausting to stack FSDC-1.

Under 40 CFR Part 63, Subpart WWWW, this unit is considered an affected source.

(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 2-8-4(1)]

#### D.7.1 Particulate Emissions for Manufacturing Processes [326 IAC 6-3-2]

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Pursuant to 326 IAC 6-3-2, particulate emissions from the Flame Spray unit, FS-01, shall not exceed 3.77 pounds per hour when operating at a process weight rate of 0.89 tons per hour. The pound per hour limitation was calculated with the following equation:

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:

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

#### D.7.1 Particulate Emissions for Manufacturing Processes [326 IAC 6-3-2]

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Pursuant to 326 IAC 6-3-2, particulate emissions from the Flame Spray unit, FS-01, shall not exceed 3.77 pounds per hour when operating at a process weight rate of 0.89 tons per hour. The pound per hour limitation was calculated with the following equation:

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:

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

Based on calculations, a control device is not needed to comply with this limit.

#### D.7.2 Compliance Determination

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Pursuant to 326 IAC 6-3-2(d), particulate from the Flame Spray Unit FS-1 shall be controlled by a dry particulate filter, and the Permittee shall operate at all times that the process is running, and shall operate within manufacturer's specifications at all times.

#### D.7.3 Compliance Monitoring

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In order to demonstrate compliance with Condition D.7.2, the Permittee shall comply with the monitoring requirements described in Section E.3 of this permit, for the National Emissions Standards for Hazardous Air Pollutants (NESHAP), 40 CFR Part 63.11508.

## SECTION E.1 EMISSIONS UNIT OPERATION CONDITIONS

### Emissions Unit Description [326 IAC 2-8-4(10)]: Insignificant Activities

- (a) One (1) natural gas-fired emergency generator, identified as ENGG-1, manufactured in 2009, approved for installation in 2010, 4-stroke rich-burn reciprocating internal combustion engine, lean mix, maximum power output rate of 80 horsepower, , 500 hours per year, exhausting to Stack ENGGSV-1, with no control.

This unit is considered an affected source under 40 CFR 60, Subpart JJJJ.

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

### New Source Performance Standards (NSPS) Requirements [40 CFR, Subpart JJJJ]

#### E.1.1 General Provisions Relating to New Source Performance Standards (NSPS) [326 IAC 12-1] [40 CFR Part 60, Subpart A]

The provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 12-1, apply to emission unit ENGG-1 as described in this section except when otherwise specified in 40 CFR Part 60, Subpart JJJJ.

- (a) Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12-1, except as otherwise specified in 40 CFR 60, Subpart JJJJ.
- (b) Pursuant to 40 CFR 60.10, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management  
Compliance and Enforcement Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

#### E.1.2 New Source Performance Standards (NSPS) Requirements for Stationary Non-Emergency SI Engines $\geq 100$ HP (Except Gasoline and Rich Burn LPG), Stationary SI Landfill/Digester Gas Engines, and Stationary Emergency Engines $>25$ HP [40 CFR Part 60, Subpart JJJJ][326 IAC 12]

Pursuant to 40 CFR Part 60, Subpart JJJJ, the Permittee, which owns or operates a stationary natural gas fired emergency generator shall comply with the following provisions of 40 CFR Part 60, Subpart JJJJ (included as Attachment A of this permit) which are incorporated by reference as 326 IAC 12:

- (1) 40 CFR 60.42303  
(2) 40 CFR 60.42373  
Table 1 to Subpart JJJJ

## SECTION E.2 EMISSIONS UNIT OPERATION CONDITIONS

### Emissions Unit Description [326 IAC 2-8-4(10)]: Insignificant Activities

- (a) One (1) natural gas-fired emergency generator, identified as ENGG-1, manufactured in 2009, approved for installation in 2010, 4-stroke rich-burn reciprocating internal combustion engine, lean mix, maximum power output rate of 80 horsepower, , 500 hours per year, exhausting to Stack ENGGSV-1, with no control.

This unit is considered an affected source under 40 CFR 63, Subpart ZZZZ.

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

### National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements [326 IAC 2-8-4(1)]

#### E.2.1 General Provisions Relating to NESHAP [40 CFR Part 63, Subpart A] [326 IAC 20-1]

Pursuant to 40 CFR 63, 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, except as otherwise specified in 40 CFR 63, Subpart ZZZZ.

#### E.2.2 National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines [40 CFR Part 63, Subpart ZZZZ]

The Permittee, which owns or operates stationary reciprocating internal combustion engines at an area source of HAP emissions shall comply with the following provisions of 40 CFR Part 63, Subpart ZZZZ (included as Attachment B of this permit):

- (1) 40 CFR 63.6580
- (2) 40 CFR 63.6585
- (3) 40 CFR 63.6590(a)(2)(iii) and (c)

## SECTION E.3 EMISSIONS UNIT OPERATION CONDITIONS

### Emissions Unit Description [326 IAC 2-8-4(10)]

- (j) Flame Spray Unit, identified as FS-1, constructed in 2010, approved for modification in 2011, maximum capacity of 43,800 units per year, materials used for the spraying are 1080 steel powder and nickel/aluminum alloy powder, controlled by a dust collector, exhausting to stack FSDC-1.

Under 40 CFR Part 63, Subpart WWWWWW, this unit is considered an affected source.

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

### National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements [326 IAC 2-8-4(1)]

#### E.3.1 General Provisions Relating to NESHAP [40 CFR Part 63, Subpart A] [326 IAC 20-1]

Pursuant to 40 CFR 63, 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, except as otherwise specified in 40 CFR 63, Subpart WWWWWW.

#### E.3.2 National Emission Standards for Hazardous Air Pollutants (NESHAP) for Plating and Polishing Operations [40 CFR Part 63, Subpart WWWWWW]

The Permittee, which owns or operates a plating operation at an area source of HAP emissions shall comply with the following provisions of 40 CFR Part 63, Subpart WWWWWW (included as Attachment C of this permit):

Applicable portions of the NESHAP are the following:

- (1) 40 CFR 63.11504
- (2) 40 CFR 63.11505
- (3) 40 CFR 63.11506
- (4) 40 CFR 63.11507
- (5) 40 CFR 63.11508
- (6) 40 CFR 63.11509
- (7) 40 CFR 63.115010
- (8) 40 CFR 63.115011

The requirements of 40 CFR Part 63, Subpart WWWWWW are included in their entirety in Attachment C of the permit.

## INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY

### FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP) CERTIFICATION

Source Name: Caterpillar Reman Powertrain Indiana, Inc.  
Source Address: 751 International Drive, Franklin, Indiana 46131  
FESOP Permit No.: F081-28719-00056

**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:

Date:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE AND ENFORCEMENT BRANCH  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251  
Phone: (317) 233-0178  
Fax: (317) 233-6865**

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)  
EMERGENCY OCCURRENCE REPORT**

Source Name: Caterpillar Reman Powertrain Indiana, Inc.  
Source Address: 751 International Drive, Franklin, Indiana 46131  
FESOP Permit No.: F081-28719-00056

**This form consists of 2 pages**

**Page 1 of 2**

- This is an emergency as defined in 326 IAC 2-7-1(12)
- The Permittee must notify the Office of Air Quality (OAQ), within four (4) daytime business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and
  - 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: \_\_\_\_\_

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE AND ENFORCEMENT BRANCH**

**FESOP Quarterly Report**

Source Name: Caterpillar Reman Powertrain Indiana, Inc.  
Source Address: 751 International Drive, Franklin, Indiana 46131  
FESOP Permit No.: F081-28719-00056  
Facility: Engine Test Cells E1-E8 (P004)  
Parameter: Diesel Fuel  
Limit: 252,920 per twelve (12) consecutive month period

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

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

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

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

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE AND ENFORCEMENT BRANCH  
FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)  
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT**

Source Name: Caterpillar Reman Powertrain Indiana, Inc.  
Source Address: 751 International Drive, Franklin, Indiana 46131  
FESOP Permit No.: F081-28719-00056

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

Page 1 of 2

<p>This report shall be submitted quarterly based on a calendar year. Any deviation from the requirements of this permit, 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>	
<p><input type="checkbox"/> NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.</p>	
<p><input type="checkbox"/> THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD</p>	
<p><b>Permit Requirement</b> (specify permit condition #)</p>	
<p><b>Date of Deviation:</b></p>	<p><b>Duration of Deviation:</b></p>
<p><b>Number of Deviations:</b></p>	
<p><b>Probable Cause of Deviation:</b></p>	
<p><b>Response Steps Taken:</b></p>	
<p><b>Permit Requirement</b> (specify permit condition #)</p>	
<p><b>Date of Deviation:</b></p>	<p><b>Duration of Deviation:</b></p>
<p><b>Number of Deviations:</b></p>	
<p><b>Probable Cause of Deviation:</b></p>	
<p><b>Response Steps Taken:</b></p>	

<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: \_\_\_\_\_

## **Appendix A**

**Caterpillar Reman Powertrain Indiana, Inc.  
751 International Drive  
Franklin, Indiana 46131**

**Permit No. F081-28719-00056**

**Title 40: Protection of Environment**  
**PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES**

**Subpart JJJJ—Standards of Performance for Stationary Spark Ignition Internal Combustion Engines**

**Source:** 73 FR 3591, Jan. 18, 2008, unless otherwise noted.

**What This Subpart Covers**

**§ 60.4230 Am I subject to this subpart?**

(a) The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary spark ignition (SI) internal combustion engines (ICE) as specified in paragraphs (a)(1) through (5) of this section. For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator.

(1) Manufacturers of stationary SI ICE with a maximum engine power less than or equal to 19 kilowatt (KW) (25 horsepower (HP)) that are manufactured on or after July 1, 2008.

(2) Manufacturers of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) that are gasoline fueled or that are rich burn engines fueled by liquefied petroleum gas (LPG), where the date of manufacture is:

(i) On or after July 1, 2008; or

(ii) On or after January 1, 2009, for emergency engines.

(3) Manufacturers of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) that are not gasoline fueled and are not rich burn engines fueled by LPG, where the manufacturer participates in the voluntary manufacturer certification program described in this subpart and where the date of manufacture is:

(i) On or after July 1, 2007, for engines with a maximum engine power greater than or equal to 500 HP (except lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP);

(ii) On or after January 1, 2008, for lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP;

(iii) On or after July 1, 2008, for engines with a maximum engine power less than 500 HP; or

(iv) On or after January 1, 2009, for emergency engines.

(4) Owners and operators of stationary SI ICE that commence construction after June 12, 2006, where the stationary SI ICE are manufactured:

(i) On or after July 1, 2007, for engines with a maximum engine power greater than or equal to 500 HP (except lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP);

(ii) on or after January 1, 2008, for lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP;

(iii) on or after July 1, 2008, for engines with a maximum engine power less than 500 HP; or

(iv) on or after January 1, 2009, for emergency engines with a maximum engine power greater than 19 KW (25 HP).

(5) Owners and operators of stationary SI ICE that commence modification or reconstruction after June 12, 2006.

(b) The provisions of this subpart are not applicable to stationary SI ICE being tested at an engine test cell/stand.

(c) If you are an owner or operator of an area source subject to this subpart, you are exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart as applicable.

(d) For the purposes of this subpart, stationary SI ICE using alcohol-based fuels are considered gasoline engines.

(e) Stationary SI ICE may be eligible for exemption from the requirements of this subpart as described in 40 CFR part 1068, subpart C (or the exemptions described in 40 CFR parts 90 and 1048, for engines that would need to be certified to standards in those parts), except that owners and operators, as well as manufacturers, may be eligible to request an exemption for national security.

(f) Owners and operators of facilities with internal combustion engines that are acting as temporary replacement units and that are located at a stationary source for less than 1 year and that have been properly certified as meeting the standards that would be applicable to such engine under the appropriate nonroad engine provisions, are not required to meet any other provisions under this subpart with regard to such engines.

**Emission Standards for Manufacturers**

**§ 60.4231 What emission standards must I meet if I am a manufacturer of stationary SI internal combustion engines or equipment containing such engines?**

(a) Stationary SI internal combustion engine manufacturers must certify their stationary SI ICE with a maximum engine power less than or equal to 19 KW (25 HP) manufactured on or after July 1, 2008 to the certification emission standards and other requirements for new nonroad SI engines in 40 CFR part 90 or 1054, as follows:

If engine replacement is . . .	and manufacturing dates are . . .	the engine must meet emission standards and related requirements for nonhandheld engines under . . .
(1) below 225 cc	July 1, 2008 to December 31, 2011	40 CFR part 90.
(2) below 225 cc	January 1, 2012 or later	40 CFR part 1054.
(3) at or above 225 cc	July 1, 2008 to December 31, 2010	40 CFR part 90.
(4) at or above 225 cc	January 1, 2011 or later	40 CFR part 1054.

(b) Stationary SI internal combustion engine manufacturers must certify their stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) (except emergency stationary ICE with a maximum engine power greater than 25 HP and less than 130 HP) that use gasoline and that are manufactured on or after the applicable date in §60.4230(a)(2), or manufactured on or after the applicable date in §60.4230(a)(4) for emergency stationary ICE with a maximum engine power greater than or equal to 130 HP, to the certification emission standards and other requirements for new nonroad SI engines in 40 CFR part 1048. Stationary SI internal combustion engine manufacturers must certify their emergency stationary SI ICE with a maximum engine power greater than 25 HP and less than 130 HP that are manufactured on or after the applicable date in §60.4230(a)(4) to the Phase 1 emission standards in 40 CFR 90.103, applicable to class II engines, and other requirements for new nonroad SI engines in 40 CFR part 90. Stationary SI internal combustion engine manufacturers may certify their stationary SI ICE with a maximum engine power less than or equal to 30 KW (40 HP) with a total displacement less than or equal to 1,000 cubic centimeters (cc) to the certification emission standards and other requirements for new nonroad SI engines in 40 CFR part 90 or 1054, as appropriate.

(c) Stationary SI internal combustion engine manufacturers must certify their stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) (except emergency stationary ICE with a maximum engine power greater than 25 HP and less than 130 HP) that are rich burn engines that use LPG and that are manufactured on or after the applicable date in §60.4230(a)(2), or manufactured on or after the applicable date in §60.4230(a)(4) for emergency stationary ICE with a maximum engine power greater than or equal to 130 HP, to the certification emission standards and other requirements for new nonroad SI engines in 40 CFR part 1048. Stationary SI internal combustion engine manufacturers must certify their emergency stationary SI ICE with a maximum engine power greater than 25 HP and less than 130 HP that are manufactured on or after the applicable date in §60.4230(a)(4) to the Phase 1 emission standards in 40 CFR 90.103, applicable to class II engines, and other requirements for new nonroad SI engines in 40 CFR part 90. Stationary SI internal combustion engine manufacturers may certify their stationary SI ICE with a maximum engine power less than or equal to 30 KW (40 HP) with a total displacement less than or equal to 1,000 cc to the certification emission standards and other requirements for new nonroad SI engines in 40 CFR part 90 or 1054, as appropriate.

(d) Stationary SI internal combustion engine manufacturers who choose to certify their stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) and less than 75 KW (100 HP) (except gasoline and rich burn engines that use LPG and emergency stationary ICE with a maximum engine power greater than 25 HP and less than 130 HP) under the voluntary manufacturer certification program described in this subpart must certify those engines to the certification emission standards for new nonroad SI engines in 40 CFR part 1048. Stationary SI internal combustion engine manufacturers who choose to certify their emergency stationary SI ICE greater than 25 HP and less than 130 HP, must certify those engines to the Phase 1 emission standards in 40 CFR 90.103, applicable to class II engines, for new nonroad SI engines in 40 CFR part 90. Stationary SI internal combustion engine manufacturers may certify their stationary SI ICE with a maximum engine power less than or equal to 30 KW (40 HP) with a total displacement less than or equal to 1,000 cc to the certification emission standards for new nonroad SI engines in 40 CFR part 90 or 1054, as appropriate. For stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) and less than 75 KW (100 HP) (except gasoline and rich burn engines that use LPG and emergency stationary ICE with a maximum engine power greater than 25 HP and less than 130 HP) manufactured prior to January 1, 2011, manufacturers may choose to certify these engines to the standards in Table 1 to this subpart applicable to engines with a maximum engine power greater than or equal to 100 HP and less than 500 HP.

(e) Stationary SI internal combustion engine manufacturers who choose to certify their stationary SI ICE with a maximum engine power greater than or equal to 75 KW (100 HP) (except gasoline and rich burn engines that use LPG) under the voluntary manufacturer certification program described in this subpart must certify those engines to the emission standards in Table 1 to this subpart. Stationary SI internal combustion engine manufacturers may certify their stationary SI ICE with a maximum engine power greater than or equal to 75 KW (100 HP) that are lean burn engines that use LPG to the certification emission standards for new nonroad SI engines in 40 CFR part 1048. For stationary SI ICE with a maximum engine power greater than or equal to 100 HP (75 KW) and less than 500 HP (373 KW) manufactured prior to January 1, 2011, and for stationary SI ICE with a maximum engine power greater than or equal to 500 HP (373 KW) manufactured prior to July 1, 2010, manufacturers may choose to certify these engines to the certification emission standards for new nonroad SI engines in 40 CFR part 1048 applicable to engines that are not severe duty engines.

(f) Manufacturers of equipment containing stationary SI internal combustion engines meeting the provisions of 40 CFR part 1054 must meet the provisions of 40 CFR part 1060, to the extent they apply to equipment manufacturers.

[73 FR 3591, Jan. 18, 2008, as amended by 73 FR 59175, Oct. 8, 2008]

**§ 60.4232 How long must my engines meet the emission standards if I am a manufacturer of stationary SI internal combustion engines?**

Engines manufactured by stationary SI internal combustion engine manufacturers must meet the emission standards as required in §60.4231 during the certified emissions life of the engines.

**Emission Standards for Owners and Operators**

**§ 60.4233 What emission standards must I meet if I am an owner or operator of a stationary SI internal combustion engine?**

(a) Owners and operators of stationary SI ICE with a maximum engine power less than or equal to 19 KW (25 HP) manufactured on or after July 1, 2008, must comply with the emission standards in §60.4231(a) for their stationary SI ICE.

(b) Owners and operators of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) manufactured on or after the applicable date in §60.4230(a)(4) that use gasoline must comply with the emission standards in §60.4231(b) for their stationary SI ICE.

(c) Owners and operators of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) manufactured on or after the applicable date in §60.4230(a)(4) that are rich burn engines that use LPG must comply with the emission standards in §60.4231(c) for their stationary SI ICE.

(d) Owners and operators of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) and less than 75 KW (100 HP) (except gasoline and rich burn engines that use LPG) must comply with the emission standards for field testing in 40 CFR 1048.101(c) for their non-emergency stationary SI ICE and with the emission standards in Table 1 to this subpart for their emergency stationary SI ICE. Owners and operators of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) and less than 75 KW (100 HP) manufactured prior to January 1, 2011, that were certified to the standards in Table 1 to this subpart applicable to engines with a maximum engine power greater than or equal to 100 HP and less than 500 HP, may optionally choose to meet those standards.

(e) Owners and operators of stationary SI ICE with a maximum engine power greater than or equal to 75 KW (100 HP) (except gasoline and rich burn engines that use LPG) must comply with the emission standards in Table 1 to this subpart for their stationary SI ICE. For owners and operators of stationary SI ICE with a maximum engine power greater than or equal to 100 HP (except gasoline and rich burn engines that use LPG) manufactured prior to January 1, 2011 that were certified to the certification emission standards in 40 CFR part 1048 applicable to engines that are not severe duty engines, if such stationary SI ICE was certified to a carbon monoxide (CO) standard above the standard in Table 1 to this subpart, then the owners and operators may meet the CO certification (not field testing) standard for which the engine was certified.

(f) Owners and operators of any modified or reconstructed stationary SI ICE subject to this subpart must meet the requirements as specified in paragraphs (f)(1) through (5) of this section.

(1) Owners and operators of stationary SI ICE with a maximum engine power less than or equal to 19 KW (25 HP), that are modified or reconstructed after June 12, 2006, must comply with the same emission standards as those specified in paragraph (a) of this section.

(2) Owners and operators of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) that use gasoline engines, that are modified or reconstructed after June 12, 2006, must comply with the same emission standards as those specified in paragraph (b) of this section.

(3) Owners and operators of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) that are rich burn engines that use LPG, that are modified or reconstructed after June 12, 2006, must comply with the same emission standards as those specified in paragraph (c) of this section.

(4) Owners and operators of stationary SI natural gas and lean burn LPG engines with a maximum engine power greater than 19 KW (25 HP), that are modified or reconstructed after June 12, 2006, must comply with the same emission standards as those specified in paragraph (d) or (e) of this section, except that such owners and operators of non-emergency engines and emergency engines greater than or equal to 130 HP must meet a nitrogen oxides (NO<sub>x</sub>) emission standard of 3.0 grams per HP-hour (g/HP-hr), a CO emission standard of 4.0 g/HP-hr (5.0 g/HP-hr for non-emergency engines less than 100 HP), and a volatile organic compounds (VOC) emission standard of 1.0 g/HP-hr, or a NO<sub>x</sub> emission standard of 250 ppmvd at 15 percent oxygen (O<sub>2</sub>), a CO emission standard 540 ppmvd at 15 percent O<sub>2</sub> (675 ppmvd at 15 percent O<sub>2</sub> for non-emergency engines less than 100 HP), and a VOC emission standard of 86 ppmvd at 15 percent O<sub>2</sub>, where the date of manufacture of the engine is:

(i) Prior to July 1, 2007, for non-emergency engines with a maximum engine power greater than or equal to 500 HP;

(ii) Prior to July 1, 2008, for non-emergency engines with a maximum engine power less than 500 HP;

(iii) Prior to January 1, 2009, for emergency engines.

(5) Owners and operators of stationary SI landfill/digester gas ICE engines with a maximum engine power greater than 19 KW (25 HP), that are modified or reconstructed after June 12, 2006, must comply with the same emission standards as those specified in paragraph (e) of this section for stationary landfill/digester gas engines.

(g) Owners and operators of stationary SI wellhead gas ICE engines may petition the Administrator for approval on a case-by-case basis to meet emission standards no less stringent than the emission standards that apply to stationary emergency SI engines greater than 25 HP and less than 130 HP due to the presence of high sulfur levels in the fuel, as specified in Table 1 to this subpart. The request must, at a minimum, demonstrate that the fuel has high sulfur levels that prevent the use of aftertreatment controls and also that the owner has reasonably made all attempts possible to obtain an engine that will meet the standards without the use of aftertreatment controls. The petition must request the most stringent standards reasonably applicable to the engine using the fuel.

(h) Owners and operators of stationary SI ICE that are required to meet standards that reference 40 CFR 1048.101 must, if testing their engines in use, meet the standards in that section applicable to field testing, except as indicated in paragraph (e) of this section.

**§ 60.4234 How long must I meet the emission standards if I am an owner or operator of a stationary SI internal combustion engine?**

Owners and operators of stationary SI ICE must operate and maintain stationary SI ICE that achieve the emission standards as required in §60.4233 over the entire life of the engine.

**Other Requirements for Owners and Operators**

**§ 60.4235 What fuel requirements must I meet if I am an owner or operator of a stationary SI gasoline fired internal combustion engine subject to this subpart?**

Owners and operators of stationary SI ICE subject to this subpart that use gasoline must use gasoline that meets the per gallon sulfur limit in 40 CFR 80.195.

**§ 60.4236 What is the deadline for importing or installing stationary SI ICE produced in the previous model year?**

(a) After July 1, 2010, owners and operators may not install stationary SI ICE with a maximum engine power of less than 500 HP that do not meet the applicable requirements in §60.4233.

(b) After July 1, 2009, owners and operators may not install stationary SI ICE with a maximum engine power of greater than or equal to 500 HP that do not meet the applicable requirements in §60.4233, except that lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP that do not meet the applicable requirements in §60.4233 may not be installed after January 1, 2010.

(c) For emergency stationary SI ICE with a maximum engine power of greater than 19 KW (25 HP), owners and operators may not install engines that do not meet the applicable requirements in §60.4233 after January 1, 2011.

(d) In addition to the requirements specified in §§60.4231 and 60.4233, it is prohibited to import stationary SI ICE less than or equal to 19 KW (25 HP), stationary rich burn LPG SI ICE, and stationary gasoline SI ICE that do not meet the applicable requirements specified in paragraphs (a), (b), and (c) of this section, after the date specified in paragraph (a), (b), and (c) of this section.

(e) The requirements of this section do not apply to owners and operators of stationary SI ICE that have been modified or reconstructed, and they do not apply to engines that were removed from one existing location and reinstalled at a new location.

**§ 60.4237 What are the monitoring requirements if I am an owner or operator of an emergency stationary SI internal combustion engine?**

(a) Starting on July 1, 2010, if the emergency stationary SI internal combustion engine that is greater than or equal to 500 HP that was built on or after July 1, 2010, does not meet the standards applicable to non-emergency engines, the owner or operator must install a non-resettable hour meter.

(b) Starting on January 1, 2011, if the emergency stationary SI internal combustion engine that is greater than or equal to 130 HP and less than 500 HP that was built on or after January 1, 2011, does not meet the standards applicable to non-emergency engines, the owner or operator must install a non-resettable hour meter.

(c) If you are an owner or operator of an emergency stationary SI internal combustion engine that is less than 130 HP, was built on or after July 1, 2008, and does not meet the standards applicable to non-emergency engines, you must install a non-resettable hour meter upon startup of your emergency engine.

**Compliance Requirements for Manufacturers**

**§ 60.4238 What are my compliance requirements if I am a manufacturer of stationary SI internal combustion engines ≤19 KW (25 HP) or a manufacturer of equipment containing such engines?**

Stationary SI internal combustion engine manufacturers who are subject to the emission standards specified in §60.4231(a) must certify their stationary SI ICE using the certification procedures required in 40 CFR part 90, subpart B, or 40 CFR part 1054, subpart C, as applicable, and must test their engines as specified in those parts. Manufacturers of equipment containing stationary SI internal combustion engines meeting the provisions of 40 CFR part 1054 must meet the provisions of 40 CFR part 1060, subpart C, to the extent they apply to equipment manufacturers.

[73 FR 59176, Oct. 8, 2008]

**§ 60.4239 What are my compliance requirements if I am a manufacturer of stationary SI internal combustion engines >19 KW (25 HP) that use gasoline or a manufacturer of equipment containing such engines?**

Stationary SI internal combustion engine manufacturers who are subject to the emission standards specified in §60.4231(b) must certify their stationary SI ICE using the certification procedures required in 40 CFR part 1048, subpart C, and must test their engines as specified in that part. Stationary SI internal combustion engine manufacturers who certify their stationary SI ICE with a maximum engine power less than or equal to 30 KW (40 HP) with a total displacement less than or equal to 1,000 cc to the certification emission standards and other requirements for new nonroad SI engines in 40 CFR part 90 or 40 CFR part 1054, and manufacturers of stationary SI emergency engines that are greater than 25 HP and less than 130 HP who meet the Phase 1 emission standards in 40 CFR 90.103, applicable to class II engines, must certify their stationary SI ICE using the certification procedures required in 40 CFR part 90, subpart B, or 40 CFR part 1054, subpart C, as applicable, and must test their engines as specified in those parts. Manufacturers of equipment containing stationary SI internal combustion engines meeting the provisions of 40 CFR part 1054 must meet the provisions of 40 CFR part 1060, subpart C, to the extent they apply to equipment manufacturers.

[73 FR 59176, Oct. 8, 2008]

**§ 60.4240 What are my compliance requirements if I am a manufacturer of stationary SI internal combustion engines >19 KW (25 HP) that are rich burn engines that use LPG or a manufacturer of equipment containing such engines?**

Stationary SI internal combustion engine manufacturers who are subject to the emission standards specified in §60.4231(c) must certify their stationary SI ICE using the certification procedures required in 40 CFR part 1048, subpart C, and must test their engines as specified in that part. Stationary SI internal combustion engine manufacturers who certify their stationary SI ICE with a maximum engine power less than or equal to 30 KW (40 HP) with a total displacement less than or equal to 1,000 cc to the certification emission standards and other requirements for new nonroad SI engines in 40 CFR part 90 or 40 CFR part 1054, and manufacturers of stationary SI emergency engines that are greater than 25 HP and less than 130 HP who meet the Phase 1 emission standards in 40 CFR 90.103, applicable to class II engines, must certify their stationary SI ICE using the certification procedures required in 40 CFR part 90, subpart B, or 40 CFR part 1054, subpart C, as applicable, and must test their engines as specified in those parts. Manufacturers of equipment containing stationary SI internal combustion engines meeting the provisions of 40 CFR part 1054 must meet the provisions of 40 CFR part 1060, subpart C, to the extent they apply to equipment manufacturers.

[73 FR 59176, Oct. 8, 2008]

**§ 60.4241 What are my compliance requirements if I am a manufacturer of stationary SI internal combustion engines participating in the voluntary certification program or a manufacturer of equipment containing such engines?**

(a) Manufacturers of stationary SI internal combustion engines with a maximum engine power greater than 19 KW (25 HP) that do not use gasoline and are not rich burn engines that use LPG can choose to certify their engines to the emission standards in §60.4231(d) or (e), as applicable, under the voluntary certification program described in this subpart. Manufacturers who certify their engines under the voluntary certification program must meet the requirements as specified in paragraphs (b) through (g) of this section. In addition, manufacturers of stationary SI internal combustion engines who choose to certify their engines under the voluntary certification program, must also meet the requirements as specified in §60.4247.

(b) Manufacturers of engines other than those certified to standards in 40 CFR part 90 or 40 CFR part 1054 must certify their stationary SI ICE using the certification procedures required in 40 CFR part 1048, subpart C, and must follow the same test procedures that apply to large SI nonroad engines under 40 CFR part

1048, but must use the D-1 cycle of International Organization of Standardization 8178-4: 1996(E) (incorporated by reference, see 40 CFR 60.17) or the test cycle requirements specified in Table 5 to 40 CFR 1048.505, except that Table 5 of 40 CFR 1048.505 applies to high load engines only. Stationary SI internal combustion engine manufacturers who certify their stationary SI ICE with a maximum engine power less than or equal to 30 KW (40 HP) with a total displacement less than or equal to 1,000 cc to the certification emission standards and other requirements for new nonroad SI engines in 40 CFR part 90 or 40 CFR part 1054, and manufacturers of emergency engines that are greater than 25 HP and less than 130 HP who meet the Phase 1 standards in 40 CFR 90.103, applicable to class II engines, must certify their stationary SI ICE using the certification procedures required in 40 CFR part 90, subpart B, or 40 CFR part 1054, subpart C, as applicable, and must test their engines as specified in those parts. Manufacturers of equipment containing stationary SI internal combustion engines meeting the provisions of 40 CFR part 1054 must meet the provisions of 40 CFR part 1060, subpart C, to the extent they apply to equipment manufacturers.

(c) Certification of stationary SI ICE to the emission standards specified in §60.4231(d) or (e), as applicable, is voluntary, but manufacturers who decide to certify are subject to all of the requirements indicated in this subpart with regard to the engines included in their certification. Manufacturers must clearly label their stationary SI engines as certified or non-certified engines.

(d) Manufacturers of natural gas fired stationary SI ICE who conduct voluntary certification of stationary SI ICE to the emission standards specified in §60.4231(d) or (e), as applicable, must certify their engines for operation using fuel that meets the definition of pipeline-quality natural gas. The fuel used for certifying stationary SI natural gas engines must meet the definition of pipeline-quality natural gas as described in §60.4248. In addition, the manufacturer must provide information to the owner and operator of the certified stationary SI engine including the specifications of the pipeline-quality natural gas to which the engine is certified and what adjustments the owner or operator must make to the engine when installed in the field to ensure compliance with the emission standards.

(e) Manufacturers of stationary SI ICE that are lean burn engines fueled by LPG who conduct voluntary certification of stationary SI ICE to the emission standards specified in §60.4231(d) or (e), as applicable, must certify their engines for operation using fuel that meets the specifications in 40 CFR 1065.720.

(f) Manufacturers may certify their engines for operation using gaseous fuels in addition to pipeline-quality natural gas; however, the manufacturer must specify the properties of that fuel and provide testing information showing that the engine will meet the emission standards specified in §60.4231(d) or (e), as applicable, when operating on that fuel. The manufacturer must also provide instructions for configuring the stationary engine to meet the emission standards on fuels that do not meet the pipeline-quality natural gas definition. The manufacturer must also provide information to the owner and operator of the certified stationary SI engine regarding the configuration that is most conducive to reduced emissions where the engine will be operated on gaseous fuels with different quality than the fuel that it was certified to.

(g) A stationary SI engine manufacturer may certify an engine family solely to the standards applicable to landfill/digester gas engines as specified in §60.4231(d) or (e), as applicable, but must certify their engines for operation using landfill/digester gas and must add a permanent label stating that the engine is for use only in landfill/digester gas applications. The label must be added according to the labeling requirements specified in 40 CFR 1048.135(b).

(h) For purposes of this subpart, when calculating emissions of volatile organic compounds, emissions of formaldehyde should not be included.

(i) For engines being certified to the voluntary certification standards in Table 1 of this subpart, the VOC measurement shall be made by following the procedures in 40 CFR 1065.260 and 1065.265 in order to determine the total NMHC emissions by using a flame-ionization detector and non-methane cutter. As an alternative to the nonmethane cutter, manufacturers may use a gas chromatograph as allowed under 40 CFR 1065.267 and may measure ethane, as well as methane, for excluding such levels from the total VOC measurement.

**§ 60.4242 What other requirements must I meet if I am a manufacturer of stationary SI internal combustion engines or equipment containing stationary SI internal combustion engines or a manufacturer of equipment containing such engines?**

(a) Stationary SI internal combustion engine manufacturers must meet the provisions of 40 CFR part 90, 40 CFR part 1048, or 40 CFR part 1054, as applicable, as well as 40 CFR part 1068 for engines that are certified to the emission standards in 40 CFR part 1048 or 1054, except that engines certified pursuant to the voluntary certification procedures in §60.4241 are subject only to the provisions indicated in §60.4247 and are permitted to provide instructions to owners and operators allowing for deviations from certified configurations, if such deviations are consistent with the provisions of paragraphs §60.4241(c) through (f). Manufacturers of equipment containing stationary SI internal combustion engines meeting the provisions of 40 CFR part 1054 must meet the provisions of 40 CFR part 1060, as applicable. Labels on engines certified to 40 CFR part 1048 must refer to stationary engines, rather than or in addition to nonroad engines, as appropriate.

(b) An engine manufacturer certifying an engine family or families to standards under this subpart that are identical to standards applicable under 40 CFR part 90, 40 CFR part 1048, or 40 CFR part 1054 for that model year may certify any such family that contains both nonroad and stationary engines as a single engine family and/or may include any such family containing stationary engines in the averaging, banking and trading provisions applicable for such engines under those parts. This provision also applies to equipment or component manufacturers certifying to standards under 40 CFR part 1060.

(c) Manufacturers of engine families certified to 40 CFR part 1048 may meet the labeling requirements referred to in paragraph (a) of this section for stationary SI ICE by either adding a separate label containing the information required in paragraph (a) of this section or by adding the words “and stationary” after the word “nonroad” to the label.

(d) For all engines manufactured on or after January 1, 2011, and for all engines with a maximum engine power greater than 25 HP and less than 130 HP manufactured on or after July 1, 2008, a stationary SI engine manufacturer that certifies an engine family solely to the standards applicable to emergency engines must add a permanent label stating that the engines in that family are for emergency use only. The label must be added according to the labeling requirements specified in 40 CFR 1048.135(b).

(e) All stationary SI engines subject to mandatory certification that do not meet the requirements of this subpart must be labeled according to 40 CFR 1068.230 and must be exported under the provisions of 40 CFR 1068.230. Stationary SI engines subject to standards in 40 CFR part 90 may use the provisions in 40 CFR 90.909. Manufacturers of stationary engines with a maximum engine power greater than 25 HP that are not certified to standards and other requirements under 40 CFR part 1048 are subject to the labeling provisions of 40 CFR 1048.20 pertaining to excluded stationary engines.

(f) For manufacturers of gaseous-fueled stationary engines required to meet the warranty provisions in 40 CFR 90.1103 or 1054.120, we may establish an hour-based warranty period equal to at least the certified emissions life of the engines (in engine operating hours) if we determine that these engines are likely to operate for a number of hours greater than the applicable useful life within 24 months. We will not approve an alternate warranty under this paragraph (f) for nonroad engines. An alternate warranty period approved under this paragraph (f) will be the specified number of engine operating hours or two years, whichever comes first. The engine manufacturer shall request this alternate warranty period in its application for certification or in an earlier submission. We may approve an alternate warranty period for an engine family subject to the following conditions:

- (1) The engines must be equipped with non-resettable hour meters.
- (2) The engines must be designed to operate for a number of hours substantially greater than the applicable certified emissions life.
- (3) The emission-related warranty for the engines may not be shorter than any published warranty offered by the manufacturer without charge for the engines. Similarly, the emission-related warranty for any component

shall not be shorter than any published warranty offered by the manufacturer without charge for that component.

[73 FR 3591, Jan. 18, 2008, as amended by 73 FR 59177, Oct. 8, 2008]

## **Compliance Requirements for Owners and Operators**

### **§ 60.4243 What are my compliance requirements if I am an owner or operator of a stationary SI internal combustion engine?**

(a) If you are an owner or operator of a stationary SI internal combustion engine that is manufactured after July 1, 2008, and must comply with the emission standards specified in §60.4233(a) through (c), you must comply by purchasing an engine certified to the emission standards in §60.4231(a) through (c), as applicable, for the same engine class and maximum engine power. You must also meet the requirements as specified in 40 CFR part 1068, subparts A through D, as they apply to you. If you adjust engine settings according to and consistent with the manufacturer's instructions, your stationary SI internal combustion engine will not be considered out of compliance. In addition, you must meet one of the requirements specified in (a)(1) and (2) of this section.

(1) If you operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, you must keep records of conducted maintenance to demonstrate compliance, but no performance testing is required if you are an owner or operator.

(2) If you do not operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, your engine will be considered a non-certified engine, and you must demonstrate compliance according to (a)(2)(i) through (iii) of this section, as appropriate.

(i) If you are an owner or operator of a stationary SI internal combustion engine less than 100 HP, you must keep a maintenance plan and records of conducted maintenance to demonstrate compliance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions, but no performance testing is required if you are an owner or operator.

(ii) If you are an owner or operator of a stationary SI internal combustion engine greater than or equal to 100 HP and less than or equal to 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test within 1 year of engine startup to demonstrate compliance.

(iii) If you are an owner or operator of a stationary SI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test within 1 year of engine startup and conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance.

(b) If you are an owner or operator of a stationary SI internal combustion engine and must comply with the emission standards specified in §60.4233(d) or (e), you must demonstrate compliance according to one of the methods specified in paragraphs (b)(1) and (2) of this section.

(1) Purchasing an engine certified according to procedures specified in this subpart, for the same model year and demonstrating compliance according to one of the methods specified in paragraph (a) of this section.

(2) Purchasing a non-certified engine and demonstrating compliance with the emission standards specified in §60.4233(d) or (e) and according to the requirements specified in §60.4244, as applicable, and according to paragraphs (b)(2)(i) and (ii) of this section.

(i) If you are an owner or operator of a stationary SI internal combustion engine greater than 25 HP and less than or equal to 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance.

(ii) If you are an owner or operator of a stationary SI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test and conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance.

(c) If you are an owner or operator of a stationary SI internal combustion engine that must comply with the emission standards specified in §60.4233(f), you must demonstrate compliance according paragraph (b)(2)(i) or (ii) of this section, except that if you comply according to paragraph (b)(2)(i) of this section, you demonstrate that your non-certified engine complies with the emission standards specified in §60.4233(f).

(d) Emergency stationary ICE may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. There is no time limit on the use of emergency stationary ICE in emergency situations. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year. Emergency stationary ICE may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity. For owners and operators of emergency engines, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as permitted in this section, is prohibited.

(e) Owners and operators of stationary SI natural gas fired engines may operate their engines using propane for a maximum of 100 hours per year as an alternative fuel solely during emergency operations, but must keep records of such use. If propane is used for more than 100 hours per year in an engine that is not certified to the emission standards when using propane, the owners and operators are required to conduct a performance test to demonstrate compliance with the emission standards of §60.4233.

(f) If you are an owner or operator of a stationary SI internal combustion engine that is less than or equal to 500 HP and you purchase a non-certified engine or you do not operate and maintain your certified stationary SI internal combustion engine and control device according to the manufacturer's written emission-related instructions, you are required to perform initial performance testing as indicated in this section, but you are not required to conduct subsequent performance testing unless the stationary engine is rebuilt or undergoes major repair or maintenance. A rebuilt stationary SI ICE means an engine that has been rebuilt as that term is defined in 40 CFR 94.11(a).

(g) It is expected that air-to-fuel ratio controllers will be used with the operation of three-way catalysts/non-selective catalytic reduction. The AFR controller must be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times.

(h) If you are an owner/operator of an stationary SI internal combustion engine with maximum engine power greater than or equal to 500 HP that is manufactured after July 1, 2007 and before July 1, 2008, and must comply with the emission standards specified in sections 60.4233(b) or (c), you must comply by one of the methods specified in paragraphs (h)(1) through (h)(4) of this section.

- (1) Purchasing an engine certified according to 40 CFR part 1048. The engine must be installed and configured according to the manufacturer's specifications.
- (2) Keeping records of performance test results for each pollutant for a test conducted on a similar engine. The test must have been conducted using the same methods specified in this subpart and these methods must have been followed correctly.
- (3) Keeping records of engine manufacturer data indicating compliance with the standards.
- (4) Keeping records of control device vendor data indicating compliance with the standards.

### Testing Requirements for Owners and Operators

#### § 60.4244 What test methods and other procedures must I use if I am an owner or operator of a stationary SI internal combustion engine?

Owners and operators of stationary SI ICE who conduct performance tests must follow the procedures in paragraphs (a) through (f) of this section.

- (a) Each performance test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and according to the requirements in §60.8 and under the specific conditions that are specified by Table 2 to this subpart.
- (b) You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in §60.8(c). If your stationary SI internal combustion engine is non-operational, you do not need to startup the engine solely to conduct a performance test; however, you must conduct the performance test immediately upon startup of the engine.
- (c) You must conduct three separate test runs for each performance test required in this section, as specified in §60.8(f). Each test run must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and last at least 1 hour.
- (d) To determine compliance with the NO<sub>x</sub> mass per unit output emission limitation, convert the concentration of NO<sub>x</sub> in the engine exhaust using Equation 1 of this section:

$$ER = \frac{C_d \times 1.912 \times 10^{-3} \times Q \times T}{HP - hr} \quad (\text{Eq. 1})$$

Where:

ER = Emission rate of NO<sub>x</sub> in g/HP-hr.

C<sub>d</sub> = Measured NO<sub>x</sub> concentration in parts per million by volume (ppmv).

1.912×10<sup>-3</sup> = Conversion constant for ppm NO<sub>x</sub> to grams per standard cubic meter at 20 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meter per hour, dry basis.

T = Time of test run, in hours.

HP-hr = Brake work of the engine, horsepower-hour (HP-hr).

(e) To determine compliance with the CO mass per unit output emission limitation, convert the concentration of CO in the engine exhaust using Equation 2 of this section:

$$ER = \frac{C_d \times 1.164 \times 10^{-3} \times Q \times T}{HP - hr} \quad (\text{Eq. 2})$$

Where:

ER = Emission rate of CO in g/HP-hr.

C<sub>d</sub> = Measured CO concentration in ppmv.

1.164×10<sup>-3</sup> = Conversion constant for ppm CO to grams per standard cubic meter at 20 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meters per hour, dry basis.

T = Time of test run, in hours.

HP-hr = Brake work of the engine, in HP-hr.

(f) For purposes of this subpart, when calculating emissions of VOC, emissions of formaldehyde should not be included. To determine compliance with the VOC mass per unit output emission limitation, convert the concentration of VOC in the engine exhaust using Equation 3 of this section:

$$ER = \frac{C_d \times 1.833 \times 10^{-3} \times Q \times T}{HP - hr} \quad (\text{Eq. 3})$$

Where:

ER = Emission rate of VOC in g/HP-hr.

C<sub>d</sub> = VOC concentration measured as propane in ppmv.

1.833×10<sup>-3</sup> = Conversion constant for ppm VOC measured as propane, to grams per standard cubic meter at 20 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meters per hour, dry basis.

T = Time of test run, in hours.

HP-hr = Brake work of the engine, in HP-hr.

(g) If the owner/operator chooses to measure VOC emissions using either Method 18 of 40 CFR part 60, appendix A, or Method 320 of 40 CFR part 63, appendix A, then it has the option of correcting the measured VOC emissions to account for the potential differences in measured values between these methods and Method 25A. The results from Method 18 and Method 320 can be corrected for response factor differences using Equations 4 and 5 of this section. The corrected VOC concentration can then be placed on a propane basis using Equation 6 of this section.

$$RF_i = \frac{C_{M_i}}{C_{A_i}} \quad (\text{Eq. 4})$$

Where:

RF<sub>i</sub>= Response factor of compound i when measured with EPA Method 25A.

C<sub>Mi</sub>= Measured concentration of compound i in ppmv as carbon.

C<sub>Ai</sub>= True concentration of compound i in ppmv as carbon.

$$C_{i_{\text{corr}}} = RF_i \times C_{i_{\text{meas}}} \quad (\text{Eq. 5})$$

Where:

C<sub>icorr</sub>= Concentration of compound i corrected to the value that would have been measured by EPA Method 25A, ppmv as carbon.

C<sub>imeas</sub>= Concentration of compound i measured by EPA Method 320, ppmv as carbon.

$$C_{\text{Req}} = 0.6098 \times C_{i_{\text{corr}}} \quad (\text{Eq. 6})$$

Where:

C<sub>Req</sub>= Concentration of compound i in mg of propane equivalent per DSCM.

### **Notification, Reports, and Records for Owners and Operators**

#### **§ 60.4245 What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary SI internal combustion engine?**

Owners or operators of stationary SI ICE must meet the following notification, reporting and recordkeeping requirements.

(a) Owners and operators of all stationary SI ICE must keep records of the information in paragraphs (a)(1) through (4) of this section.

(1) All notifications submitted to comply with this subpart and all documentation supporting any notification.

(2) Maintenance conducted on the engine.

(3) If the stationary SI internal combustion engine is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR parts 90, 1048, 1054, and 1060, as applicable.

(4) If the stationary SI internal combustion engine is not a certified engine or is a certified engine operating in a non-certified manner and subject to §60.4243(a)(2), documentation that the engine meets the emission standards.

(b) For all stationary SI emergency ICE greater than or equal to 500 HP manufactured on or after July 1, 2010, that do not meet the standards applicable to non-emergency engines, the owner or operator of must

keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. For all stationary SI emergency ICE greater than or equal to 130 HP and less than 500 HP manufactured on or after July 1, 2011 that do not meet the standards applicable to non-emergency engines, the owner or operator of must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. For all stationary SI emergency ICE greater than 25 HP and less than 130 HP manufactured on or after July 1, 2008, that do not meet the standards applicable to non-emergency engines, the owner or operator of must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation.

(c) Owners and operators of stationary SI ICE greater than or equal to 500 HP that have not been certified by an engine manufacturer to meet the emission standards in §60.4231 must submit an initial notification as required in §60.7(a)(1). The notification must include the information in paragraphs (c)(1) through (5) of this section.

(1) Name and address of the owner or operator;

(2) The address of the affected source;

(3) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;

(4) Emission control equipment; and

(5) Fuel used.

(d) Owners and operators of stationary SI ICE that are subject to performance testing must submit a copy of each performance test as conducted in §60.4244 within 60 days after the test has been completed.

[73 FR 3591, Jan. 18, 2008, as amended by 73 FR 59177, Oct. 8, 2008]

## **General Provisions**

### **§ 60.4246 What parts of the General Provisions apply to me?**

Table 3 to this subpart shows which parts of the General Provisions in §§60.1 through 60.19 apply to you.

## **Mobile Source Provisions**

### **§ 60.4247 What parts of the mobile source provisions apply to me if I am a manufacturer of stationary SI internal combustion engines or a manufacturer of equipment containing such engines?**

(a) Manufacturers certifying to emission standards in 40 CFR part 90, including manufacturers certifying emergency engines below 130 HP, must meet the provisions of 40 CFR part 90. Manufacturers certifying to emission standards in 40 CFR part 1054 must meet the provisions of 40 CFR part 1054. Manufacturers of equipment containing stationary SI internal combustion engines meeting the provisions of 40 CFR part 1054 must meet the provisions of 40 CFR part 1060 to the extent they apply to equipment manufacturers.

(b) Manufacturers required to certify to emission standards in 40 CFR part 1048 must meet the provisions of 40 CFR part 1048. Manufacturers certifying to emission standards in 40 CFR part 1048 pursuant to the voluntary certification program must meet the requirements in Table 4 to this subpart as well as the standards in 40 CFR 1048.101.

(c) For manufacturers of stationary SI internal combustion engines participating in the voluntary certification program and certifying engines to Table 1 to this subpart, Table 4 to this subpart shows which parts of the mobile source provisions in 40 CFR parts 1048, 1065, and 1068 apply to you. Compliance with the deterioration factor provisions under 40 CFR 1048.205(n) and 1048.240 will be required for engines built new on and after January 1, 2010. Prior to January 1, 2010, manufacturers of stationary internal combustion engines participating in the voluntary certification program have the option to develop their own deterioration factors based on an engineering analysis.

[73 FR 3591, Jan. 18, 2008, as amended by 73 FR 59177, Oct. 8, 2008]

## Definitions

### § 60.4248 What definitions apply to this subpart?

As used in this subpart, all terms not defined herein shall have the meaning given them in the CAA and in subpart A of this part.

*Certified emissions life* means the period during which the engine is designed to properly function in terms of reliability and fuel consumption, without being remanufactured, specified as a number of hours of operation or calendar years, whichever comes first. The values for certified emissions life for stationary SI ICE with a maximum engine power less than or equal to 19 KW (25 HP) are given in 40 CFR 90.105, 40 CFR 1054.107, and 40 CFR 1060.101, as appropriate. The values for certified emissions life for stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) certified to 40 CFR part 1048 are given in 40 CFR 1048.101(g). The certified emissions life for stationary SI ICE with a maximum engine power greater than 75 KW (100 HP) certified under the voluntary manufacturer certification program of this subpart is 5,000 hours or 7 years, whichever comes first.

*Certified stationary internal combustion engine* means an engine that belongs to an engine family that has a certificate of conformity that complies with the emission standards and requirements in this part, or of 40 CFR part 90, 40 CFR part 1048, or 40 CFR part 1054, as appropriate.

*Combustion turbine* means all equipment, including but not limited to the turbine, the fuel, air, lubrication and exhaust gas systems, control systems (except emissions control equipment), and any ancillary components and sub-components comprising any simple cycle combustion turbine, any regenerative/recuperative cycle combustion turbine, the combustion turbine portion of any cogeneration cycle combustion system, or the combustion turbine portion of any combined cycle steam/electric generating system.

*Compression ignition* means relating to a type of stationary internal combustion engine that is not a spark ignition engine.

*Diesel fuel* means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is number 2 distillate oil.

*Digester gas* means any gaseous by-product of wastewater treatment typically formed through the anaerobic decomposition of organic waste materials and composed principally of methane and carbon dioxide (CO<sub>2</sub>).

*Emergency stationary internal combustion engine* means any stationary internal combustion engine whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary ICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary ICE used to pump water in the case of fire or flood, etc. Stationary SI ICE used for peak shaving are not considered emergency stationary ICE. Stationary ICE used to supply power to an electric grid or that supply power as part of a financial arrangement with another entity are not considered to be emergency engines.

*Engine manufacturer* means the manufacturer of the engine. See the definition of “manufacturer” in this section.

*Four-stroke engine* means any type of engine which completes the power cycle in two crankshaft revolutions, with intake and compression strokes in the first revolution and power and exhaust strokes in the second revolution.

*Gasoline* means any fuel sold in any State for use in motor vehicles and motor vehicle engines, or nonroad or stationary engines, and commonly or commercially known or sold as gasoline.

*Landfill gas* means a gaseous by-product of the land application of municipal refuse typically formed through the anaerobic decomposition of waste materials and composed principally of methane and CO<sub>2</sub>.

*Lean burn engine* means any two-stroke or four-stroke spark ignited engine that does not meet the definition of a rich burn engine.

*Liquefied petroleum gas* means any liquefied hydrocarbon gas obtained as a by-product in petroleum refining of natural gas production.

*Manufacturer* has the meaning given in section 216(1) of the Clean Air Act. In general, this term includes any person who manufactures a stationary engine for sale in the United States or otherwise introduces a new stationary engine into commerce in the United States. This includes importers who import stationary engines for resale.

*Maximum engine power* means maximum engine power as defined in 40 CFR 1048.801.

*Model year* means either: The calendar year in which the engine was originally produced, or the annual new model production period of the engine manufacturer if it is different than the calendar year. This must include January 1 of the calendar year for which the model year is named. It may not begin before January 2 of the previous calendar year, and it must end by December 31 of the named calendar year. For an engine that is converted to a stationary engine after being placed into service as a nonroad or other non-stationary engine, model year means the calendar year or new model production period in which the engine was originally produced.

*Natural gas* means a naturally occurring mixture of hydrocarbon and non-hydrocarbon gases found in geologic formations beneath the Earth's surface, of which the principal constituent is methane. Natural gas may be field or pipeline quality.

*Other internal combustion engine* means any internal combustion engine, except combustion turbines, which is not a reciprocating internal combustion engine or rotary internal combustion engine.

*Pipeline-quality natural gas* means a naturally occurring fluid mixture of hydrocarbons (e.g., methane, ethane, or propane) produced in geological formations beneath the Earth's surface that maintains a gaseous state at standard atmospheric temperature and pressure under ordinary conditions, and which is provided by a supplier through a pipeline. Pipeline-quality natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 950 and 1,100 British thermal units per standard cubic foot.

*Rich burn engine* means any four-stroke spark ignited engine where the manufacturer's recommended operating air/fuel ratio divided by the stoichiometric air/fuel ratio at full load conditions is less than or equal to 1.1. Engines originally manufactured as rich burn engines, but modified prior to June 12, 2006, with passive emission control technology for NO<sub>x</sub>(such as pre-combustion chambers) will be considered lean burn engines. Also, existing engines where there are no manufacturer's recommendations regarding air/fuel ratio will be considered a rich burn engine if the excess oxygen content of the exhaust at full load conditions is less than or equal to 2 percent.

*Rotary internal combustion engine* means any internal combustion engine which uses rotary motion to convert heat energy into mechanical work.

*Spark ignition* means relating to either: a gasoline-fueled engine; or any other type of engine with a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark ignition engines usually use a throttle to regulate intake air flow to control power during normal operation. Dual-fuel engines in which a liquid fuel (typically diesel fuel) is used for compression ignition and gaseous fuel (typically natural gas) is used as the primary fuel at an annual average ratio of less than 2 parts diesel fuel to 100 parts total fuel on an energy equivalent basis are spark ignition engines.

*Stationary internal combustion engine* means any internal combustion engine, except combustion turbines, that converts heat energy into mechanical work and is not mobile. Stationary ICE differ from mobile ICE in that a stationary internal combustion engine is not a nonroad engine as defined at 40 CFR 1068.30 (excluding paragraph (2)(ii) of that definition), and is not used to propel a motor vehicle or a vehicle used solely for competition. Stationary ICE include reciprocating ICE, rotary ICE, and other ICE, except combustion turbines.

*Stationary internal combustion engine test cell/stand* means an engine test cell/stand, as defined in subpart P of this part, that test stationary ICE.

*Stoichiometric* means the theoretical air-to-fuel ratio required for complete combustion.

*Subpart* means 40 CFR part 60, subpart JJJJ.

*Two-stroke engine* means a type of engine which completes the power cycle in single crankshaft revolution by combining the intake and compression operations into one stroke and the power and exhaust operations into a second stroke. This system requires auxiliary scavenging and inherently runs lean of stoichiometric.

*Volatile organic compounds* means volatile organic compounds as defined in 40 CFR 51.100(s).

*Voluntary certification program* means an optional engine certification program that manufacturers of stationary SI internal combustion engines with a maximum engine power greater than 19 KW (25 HP) that do not use gasoline and are not rich burn engines that use LPG can choose to participate in to certify their engines to the emission standards in §60.4231(d) or (e), as applicable.

[73 FR 3591, Jan. 18, 2008, as amended by 73 FR 59177, Oct. 8, 2008]

**Table 1 to Subpart JJJJ of Part 60—NO<sub>x</sub>, CO, and VOC Emission Standards for Stationary Non-Emergency SI Engines ≥100 HP (Except Gasoline and Rich Burn LPG), Stationary SI Landfill/Digester Gas Engines, and Stationary Emergency Engines >25 HP**

Engine type and fuel	Maximum engine power	Manufacture date	Emission standards <sup>a</sup>					
			g/HP-hr			ppmvd at 15% O <sub>2</sub>		
			NO <sub>x</sub>	CO	VOC <sup>d</sup>	NO <sub>x</sub>	CO	VOC <sup>d</sup>
Non-Emergency SI Natural Gas <sup>b</sup> and Non-Emergency SI Lean Burn LPG <sup>b</sup>	100≤HP<500	7/1/2008 1/1/2011	2.0	4.0	1.0	160	540	86
			1.0	2.0	0.7	82	270	60
Non-Emergency SI Lean Burn Natural Gas and LPG	500≥HP<1,350	1/1/2008 7/1/2010	2.0	4.0	1.0	160	540	86
			1.0	2.0	0.7	82	270	60

Non-Emergency SI Natural Gas and Non-Emergency SI Lean Burn LPG (except lean burn 500 $\geq$ HP<1,350)	HP $\geq$ 500	7/1/2007	2.0	4.0	1.0	160	540	86
	HP $\geq$ 500	7/1/2010	1.0	2.0	0.7	82	270	60
Landfill/Digester Gas (except lean burn 500 $\geq$ HP<1,350)	HP<500	7/1/2008	3.0	5.0	1.0	220	610	80
		1/1/2011	2.0	5.0	1.0	150	610	80
	HP $\geq$ 500	7/1/2007	3.0	5.0	1.0	220	610	80
		7/1/2010	2.0	5.0	1.0	150	610	80
Landfill/Digester Gas Lean Burn	500 $\geq$ HP<1,350	1/1/2008	3.0	5.0	1.0	220	610	80
		7/1/2010	2.0	5.0	1.0	150	610	80
Emergency	25>HP<130	1/1/2009	<sup>c</sup> 10 2.0	387 4.0	N/A 1.0	N/A 160	N/A 540	N/A 86
	HP $\geq$ 130							

<sup>a</sup>Owners and operators of stationary non-certified SI engines may choose to comply with the emission standards in units of either g/HP-hr or ppmvd at 15 percent O<sub>2</sub>.

<sup>b</sup>Owners and operators of new or reconstructed non-emergency lean burn SI stationary engines with a site rating of greater than or equal to 250 brake HP located at a major source that are meeting the requirements of 40 CFR part 63, subpart ZZZZ, Table 2A do not have to comply with the CO emission standards of Table 1 of this subpart.

<sup>c</sup>The emission standards applicable to emergency engines between 25 HP and 130 HP are in terms of NO<sub>x</sub>+HC.

<sup>d</sup>For purposes of this subpart, when calculating emissions of volatile organic compounds, emissions of formaldehyde should not be included.

**Table 2 to Subpart JJJJ of Part 60—Requirements for Performance Tests**

[As stated in §60.4244, you must comply with the following requirements for performance tests within 10 percent of 100 percent peak (or the highest achievable) load]

For each	Complying with the requirement to	You must	Using	According to the following requirements
1. Stationary SI internal combustion engine demonstrating compliance according to §60.4244.	a. limit the concentration of NO <sub>x</sub> in the stationary SI internal combustion engine exhaust.	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, appendix A or ASTM Method D6522–00(2005) <sup>a</sup> .	(a) If using a control device, the sampling site must be located at the outlet of the control device.
	ii. Determine the O <sub>2</sub> concentration of	(2) Method 3, 3A, or 3B <sup>b</sup> of 40 CFR part	(b) Measurements to determine	

	the stationary internal combustion engine exhaust at the sampling port location;	60, appendix A or ASTM Method D6522-00(2005) <sup>a</sup> .	O <sub>2</sub> concentration must be made at the same time as the measurements for NO <sub>x</sub> concentration.	
	iii. Determine the exhaust flowrate of the stationary internal combustion engine exhaust;	(3) Method 2 or 19 of 40 CFR part 60.		
	iv. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and	(4) Method 4 of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D6348-03 (incorporated by reference, see §60.17).	(c) Measurements to determine moisture must be made at the same time as the measurement for NO <sub>x</sub> concentration.	
	v. Measure NO <sub>x</sub> at the exhaust of the stationary internal combustion engine.	(5) Method 7E of 40 CFR part 60, appendix A, Method D6522-00(2005) <sup>a</sup> , Method 320 of 40 CFR part 63, appendix A, or ASTM D6348-03 (incorporated by reference, see §60.17).	(d) Results of this test consist of the average of the three 1-hour or longer runs.	
	b. limit the concentration of CO in the stationary SI internal combustion engine exhaust.	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, appendix A.	(a) If using a control device, the sampling site must be located at the outlet of the control device.
	ii. Determine the O <sub>2</sub> concentration of the stationary internal combustion engine exhaust at the sampling port location;	(2) Method 3, 3A, or 3Bb of 40 CFR part 60, appendix A or ASTM Method D6522-00(2005) <sup>a</sup> .	(b) Measurements to determine O <sub>2</sub> concentration must be made at the same time as the measurements for CO concentration.	
	iii. Determine the exhaust flowrate of the stationary internal	(3) Method 2 or 19 of 40 CFR part 60.		

	combustion engine exhaust;			
	iv. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and	(4) Method 4 of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D6348-03 (incorporated by reference, see §60.17).	(c) Measurements to determine moisture must be made at the same time as the measurement for CO concentration.	
	v. Measure CO at the exhaust of the stationary internal combustion engine.	(5) Method 10 of 40 CFR part 60, appendix A, ASTM Method D6522-00(2005) <sup>a</sup> , Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see §60.17).	(d) Results of this test consist of the average of the three 1-hour or longer runs.	
	c. limit the concentration of VOC in the stationary SI internal combustion engine exhaust.	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, appendix A.	(a) If using a control device, the sampling site must be located at the outlet of the control device.
	ii. Determine the O <sub>2</sub> concentration of the stationary internal combustion engine exhaust at the sampling port location;	(2) Method 3, 3A, or 3B <sup>b</sup> of 40 CFR part 60, appendix A or ASTM Method D6522-00(2005) <sup>a</sup> .	(b) Measurements to determine O <sub>2</sub> concentration must be made at the same time as the measurements for VOC concentration.	
	iii. Determine the exhaust flowrate of the stationary internal combustion engine exhaust;	(3) Method 2 or 19 of 40 CFR part 60.		
	iv. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and	(4) Method 4 of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D6348-03 (incorporated by reference, see	(c) Measurements to determine moisture must be made at the same time as the measurement for VOC concentration.	

		§60.17).		
	v. Measure VOC at the exhaust of the stationary internal combustion engine.	(5) Methods 25A and 18 of 40 CFR part 60, appendix A, Method 25A with the use of a methane cutter as described in 40 CFR 1065.265, Method 18 or 40 CFR part 60, appendix A, <sup>cd</sup> Method 320 of 40 CFR part 63, appendix A, or ASTM D6348–03 (incorporated by reference, see §60.17).	(d) Results of this test consist of the average of the three 1-hour or longer runs.	

<sup>a</sup>ASTM D6522–00 is incorporated by reference; see 40 CFR 60.17. Also, you may petition the Administrator for approval to use alternative methods for portable analyzer.

<sup>b</sup>You may use ASME PTC 19.10–1981, Flue and Exhaust Gas Analyses, for measuring the O<sub>2</sub> content of the exhaust gas as an alternative to EPA Method 3B.

<sup>c</sup>You may use EPA Method 18 of 40 CFR part 60, appendix A, provided that you conduct an adequate presurvey test prior to the emissions test, such as the one described in OTM 11 on EPA's Web site (<http://www.epa.gov/ttn/emc/prelim/otm11.pdf>).

<sup>d</sup>You may use ASTM D6420–99 (2004), Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography/Mass Spectrometry as an alternative to EPA Method 18 for measuring total nonmethane organic.

**Table 3 to Subpart JJJJ of Part 60—Applicability of General Provisions to Subpart JJJJ**

[As stated in §60.4246, you must comply with the following applicable General Provisions]

General provisions citation	Subject of citation	Applies to subpart	Explanation
§60.1	General applicability of the General Provisions	Yes	
§60.2	Definitions	Yes	Additional terms defined in §60.4248.
§60.3	Units and abbreviations	Yes	
§60.4	Address	Yes	
§60.5	Determination of construction or modification	Yes	

§60.6	Review of plans	Yes	
§60.7	Notification and Recordkeeping	Yes	Except that §60.7 only applies as specified in §60.4245.
§60.8	Performance tests	Yes	Except that §60.8 only applies to owners and operators who are subject to performance testing in subpart JJJJ.
§60.9	Availability of information	Yes	
§60.10	State Authority	Yes	
§60.11	Compliance with standards and maintenance requirements	Yes	Requirements are specified in subpart JJJJ.
§60.12	Circumvention	Yes	
§60.13	Monitoring requirements	No	
§60.14	Modification	Yes	
§60.15	Reconstruction	Yes	
§60.16	Priority list	Yes	
§60.17	Incorporations by reference	Yes	
§60.18	General control device requirements	No	
§60.19	General notification and reporting requirements	Yes	

**Table 4 to Subpart JJJJ of Part 60—Applicability of Mobile Source Provisions for Manufacturers Participating in the Voluntary Certification Program and Certifying Stationary SI ICE to Emission Standards in Table 1 of Subpart JJJJ[As stated in §60.4247, you must comply with the following applicable mobile source provisions if you are a manufacturer participating in the voluntary certification program and certifying stationary SI ICE to emission standards in Table 1 of subpart JJJJ]**

Mobile source provisions citation	Subject of citation	Applies to subpart	Explanation
1048 subpart A	Overview and Applicability	Yes	
1048 subpart B	Emission Standards and Related Requirements	Yes	Except for the specific sections below.
1048.101	Exhaust Emission Standards	No	
1048.105	Evaporative Emission Standards	No	
1048.110	Diagnosing Malfunctions	No	

1048.140	Certifying Blue Sky Series Engines	No	
1048.145	Interim Provisions	No	
1048 subpart C	Certifying Engine Families	Yes	Except for the specific sections below.
1048.205(b)	AECD reporting	Yes	
1048.205(c)	OBD Requirements	No	
1048.205(n)	Deterioration Factors	Yes	Except as indicated in 60.4247(c).
1048.205(p)(1)	Deterioration Factor Discussion	Yes	
1048.205(p)(2)	Liquid Fuels as they require	No	
1048.240(b)(c)(d)	Deterioration Factors	Yes	
1048 subpart D	Testing Production-Line Engines	Yes	
1048 subpart E	Testing In-Use Engines	No	
1048 subpart F	Test Procedures	Yes	
1065.5(a)(4)	Raw sampling (refers reader back to the specific emissions regulation for guidance)	Yes	
1048 subpart G	Compliance Provisions	Yes	
1048 subpart H	Reserved		
1048 subpart I	Definitions and Other Reference Information	Yes	
1048 appendix I and II	Yes		
1065 (all subparts)	Engine Testing Procedures	Yes	Except for the specific section below.
1065.715	Test Fuel Specifications for Natural Gas	No	
1068 (all subparts)	General Compliance Provisions for Nonroad Programs	Yes	Except for the specific sections below.
1068.245	Hardship Provisions for Unusual Circumstances	No	
1068.250	Hardship Provisions for Small-Volume Manufacturers	No	
1068.255	Hardship Provisions for Equipment Manufacturers and Secondary Engine Manufacturers	No	

## **Appendix B**

**Caterpillar Reman Powertrain Indiana, Inc.  
751 International Drive  
Franklin, Indiana 46131**

**Permit No. F081-28719-00056**

**Title 40: Protection of Environment**  
**PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES**

**Subpart ZZZZ—National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines**

**Source:** 69 FR 33506, June 15, 2004, unless otherwise noted.

**What This Subpart Covers**

**§ 63.6580 What is the purpose of subpart ZZZZ?**

Subpart ZZZZ establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitations.

[73 FR 3603, Jan. 18, 2008]

**§ 63.6585 Am I subject to this subpart?**

You are subject to this subpart if you own or operate a stationary RICE at a major or area source of HAP emissions, except if the stationary RICE is being tested at a stationary RICE test cell/stand.

(a) A stationary RICE is any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

(b) A major source of HAP emissions is a plant site that emits or has the potential to emit any single HAP at a rate of 10 tons (9.07 megagrams) or more per year or any combination of HAP at a rate of 25 tons (22.68 megagrams) or more per year, except that for oil and gas production facilities, a major source of HAP emissions is determined for each surface site.

(c) An area source of HAP emissions is a source that is not a major source.

(d) If you are an owner or operator of an area source subject to this subpart, your status as an entity subject to a standard or other requirements under this subpart does not subject you to the obligation to obtain a permit under 40 CFR part 70 or 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart as applicable.

(e) If you are an owner or operator of a stationary RICE used for national security purposes, you may be eligible to request an exemption from the requirements of this subpart as described in 40 CFR part 1068, subpart C.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3603, Jan. 18, 2008]

**§ 63.6590 What parts of my plant does this subpart cover?**

[Link to an amendment published at 75 FR 9674, March 3, 2010.](#)

This subpart applies to each affected source.

(a) *Affected source.* An affected source is any existing, new, or reconstructed stationary RICE located at a major or area source of HAP emissions, excluding stationary RICE being tested at a stationary RICE test cell/stand.

(1) *Existing stationary RICE.*

(i) For stationary RICE with a site rating of more than 500 brake horsepower (HP) located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before December 19, 2002.

(ii) For stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.

(iii) For stationary RICE located at an area source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.

(iv) A change in ownership of an existing stationary RICE does not make that stationary RICE a new or reconstructed stationary RICE.

(2) *New stationary RICE.* (i) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is new if you commenced construction of the stationary RICE on or after December 19, 2002.

(ii) A stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.

(iii) A stationary RICE located at an area source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.

(3) *Reconstructed stationary RICE.* (i) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after December 19, 2002.

(ii) A stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after June 12, 2006.

(iii) A stationary RICE located at an area source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after June 12, 2006.

(b) *Stationary RICE subject to limited requirements.* (1) An affected source which meets either of the criteria in paragraph (b)(1)(i) through (ii) of this section does not have to meet the requirements of this subpart and of subpart A of this part except for the initial notification requirements of §63.6645(h).

(i) The stationary RICE is a new or reconstructed emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions; or

(ii) The stationary RICE is a new or reconstructed limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(2) A new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis must meet the initial notification requirements of §63.6645(h) and the requirements of §§63.6625(c), 63.6650(g), and 63.6655(c). These stationary RICE do not have to meet the emission limitations and operating limitations of this subpart.

(3) A stationary RICE which is an existing spark ignition 4 stroke rich burn (4SRB) stationary RICE located at an area source, an existing spark ignition 4SRB stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source, 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.

(c) *Stationary RICE subject to Regulations under 40 CFR Part 60.* An affected source that is a new or reconstructed stationary RICE located at an area source, or is a new or reconstructed stationary RICE located at a major source of HAP emissions and is a spark ignition 2 stroke lean burn (2SLB) stationary RICE with a site rating of less than 500 brake HP, a spark ignition 4 stroke lean burn (4SLB) stationary RICE with a site rating of less than 250 brake HP, or a 4 stroke rich burn (4SRB) stationary RICE with a site rating of less than or equal to 500 brake HP, a stationary RICE with a site rating of less than or equal to 500 brake HP which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, an emergency or limited use stationary RICE with a site rating of less than or equal to 500 brake HP, or a compression ignition (CI) stationary RICE with a site rating of less than or equal to 500 brake HP, must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3604, Jan. 18, 2008]

### **§ 63.6595 When do I have to comply with this subpart?**

[Link to an amendment published at 75 FR 9675, March 3, 2010.](#)

(a) *Affected Sources.* (1) If you have an existing stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the applicable emission limitations and operating limitations no later than June 15, 2007.

(2) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart no later than August 16, 2004.

(3) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions after August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(4) If you start up your new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.

(5) If you start up your new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(6) If you start up your new or reconstructed stationary RICE located at an area source of HAP emissions before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.

(7) If you start up your new or reconstructed stationary RICE located at an area source of HAP emissions after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(b) *Area sources that become major sources.* If you have an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, the compliance dates in paragraphs (b)(1) and (2) of this section apply to you.

(1) Any stationary RICE for which construction or reconstruction is commenced after the date when your area source becomes a major source of HAP must be in compliance with this subpart upon startup of your affected source.

(2) Any stationary RICE for which construction or reconstruction is commenced before your area source becomes a major source of HAP must be in compliance with the provisions of this subpart that are applicable to RICE located at major sources within 3 years after your area source becomes a major source of HAP.

(c) If you own or operate an affected source, you must meet the applicable notification requirements in §63.6645 and in 40 CFR part 63, subpart A.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3604, Jan. 18, 2008]

## **Emission and Operating Limitations**

### **§ 63.6600 What emission limitations and operating limitations must I meet if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?**

[Link to an amendment published at 75 FR 9675, March 3, 2010.](#)

(a) If you own or operate an existing, new, or reconstructed spark ignition 4SRB stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 1a to this subpart and the operating limitations in Table 1b to this subpart which apply to you.

(b) If you own or operate a new or reconstructed 2SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, a new or reconstructed 4SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, or a new or reconstructed CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2a to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

(c) If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the emission limitations in Tables 1a and 2a to this subpart or operating limitations in Tables 1b and 2b to this subpart: an existing 2SLB stationary RICE, an existing 4SLB stationary RICE, or an existing CI stationary RICE; a stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis; an emergency stationary RICE; or a limited use stationary RICE.

[73 FR 3605, Jan. 18, 2008]

### **§ 63.6601 What emission limitations must I meet if I own or operate a 4SLB stationary RICE with a site rating of greater than or equal to 250 brake HP and less than 500 brake HP located at a major source of HAP emissions?**

[Link to an amendment published at 75 FR 9675, March 3, 2010.](#)

If you own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at major source of HAP emissions

manufactured on or after January 1, 2008, you must comply with the emission limitations in Table 2a to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

[73 FR 3605, Jan. 18, 2008]

**§ 63.6602 xxx**

[Link to an amendment published at 75 FR 9675, March 3, 2010.](#)

**§ 63.6603 xxx**

[Link to an amendment published at 75 FR 9675, March 3, 2010.](#)

**§ 63.6604 xxx**

[Link to an amendment published at 75 FR 9675, March 3, 2010.](#)

**General Compliance Requirements**

**§ 63.6605 What are my general requirements for complying with this subpart?**

[Link to an amendment published at 75 FR 9675, March 3, 2010.](#)

(a) You must be in compliance with the emission limitations and operating limitations in this subpart that apply to you at all times, except during periods of startup, shutdown, and malfunction.

(b) If you must comply with emission limitations and operating limitations, you must operate and maintain your stationary RICE, including air pollution control and monitoring equipment, in a manner consistent with good air pollution control practices for minimizing emissions at all times, including during startup, shutdown, and malfunction.

**Testing and Initial Compliance Requirements**

**§ 63.6610 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?**

If you own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions you are subject to the requirements of this section.

(a) You must conduct the initial performance test or other initial compliance demonstrations in Table 4 to this subpart that apply to you within 180 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions in §63.7(a)(2).

(b) If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004 and own or operate stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must demonstrate initial compliance with either the proposed emission limitations or the promulgated emission limitations no later than February 10, 2005 or no later than 180 days after startup of the source, whichever is later, according to §63.7(a)(2)(ix).

(c) If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004 and own or operate stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, and you chose to comply with the proposed emission limitations when demonstrating initial compliance, you must conduct a second performance test to demonstrate compliance with the promulgated

emission limitations by December 13, 2007 or after startup of the source, whichever is later, according to §63.7(a)(2)(ix).

(d) An owner or operator is not required to conduct an initial performance test on units for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (d)(1) through (5) of this section.

(1) The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly.

(2) The test must not be older than 2 years.

(3) The test must be reviewed and accepted by the Administrator.

(4) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.

(5) The test must be conducted at any load condition within plus or minus 10 percent of 100 percent load.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3605, Jan. 18, 2008]

**§ 63.6611 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a 4SLB SI stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions?**

If you own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions, you must conduct an initial performance test within 240 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions specified in Table 4 to this subpart, as appropriate.

[73 FR 3605, Jan. 18, 2008]

**§ 63.6612 xxx**

[Link to an amendment published at 75 FR 9676, March 3, 2010.](#)

**§ 63.6615 When must I conduct subsequent performance tests?**

If you must comply with the emission limitations and operating limitations, you must conduct subsequent performance tests as specified in Table 3 of this subpart.

**§ 63.6620 What performance tests and other procedures must I use?**

[Link to an amendment published at 75 FR 9676, March 3, 2010.](#)

(a) You must conduct each performance test in Tables 3 and 4 of this subpart that applies to you.

(b) Each performance test must be conducted according to the requirements in §63.7(e)(1) and under the specific conditions that this subpart specifies in Table 4. The test must be conducted at any load condition within plus or minus 10 percent of 100 percent load.

(c) You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in §63.7(e)(1).

(d) You must conduct three separate test runs for each performance test required in this section, as specified in §63.7(e)(3). Each test run must last at least 1 hour.

(e)(1) You must use Equation 1 of this section to determine compliance with the percent reduction requirement:

$$\frac{C_i - C_o}{C_i} \times 100 = R \quad (\text{Eq. 1})$$

Where:

$C_i$  = concentration of CO or formaldehyde at the control device inlet,

$C_o$  = concentration of CO or formaldehyde at the control device outlet, and

R = percent reduction of CO or formaldehyde emissions.

(2) You must normalize the carbon monoxide (CO) or formaldehyde concentrations at the inlet and outlet of the control device to a dry basis and to 15 percent oxygen, or an equivalent percent carbon dioxide (CO<sub>2</sub>). If pollutant concentrations are to be corrected to 15 percent oxygen and CO<sub>2</sub> concentration is measured in lieu of oxygen concentration measurement, a CO<sub>2</sub> correction factor is needed. Calculate the CO<sub>2</sub> correction factor as described in paragraphs (e)(2)(i) through (iii) of this section.

(i) Calculate the fuel-specific  $F_o$  value for the fuel burned during the test using values obtained from Method 19, section 5.2, and the following equation:

$$F_o = \frac{0.209 F_d}{F_c} \quad (\text{Eq. 2})$$

Where:

$F_o$  = Fuel factor based on the ratio of oxygen volume to the ultimate CO<sub>2</sub> volume produced by the fuel at zero percent excess air.

0.209 = Fraction of air that is oxygen, percent/100.

$F_d$  = Ratio of the volume of dry effluent gas to the gross calorific value of the fuel from Method 19,  $\text{dsm}^3/\text{J}$  ( $\text{dscf}/10^6 \text{ Btu}$ ).

$F_c$  = Ratio of the volume of CO<sub>2</sub> produced to the gross calorific value of the fuel from Method 19,  $\text{dsm}^3/\text{J}$  ( $\text{dscf}/10^6 \text{ Btu}$ ).

(ii) Calculate the CO<sub>2</sub> correction factor for correcting measurement data to 15 percent oxygen, as follows:

$$X_{\text{CO}_2} = \frac{5.9}{F_o} \quad (\text{Eq. 3})$$

Where:

$X_{CO_2}$  = CO<sub>2</sub> correction factor, percent.

5.9 = 20.9 percent O<sub>2</sub> - 15 percent O<sub>2</sub>, the defined O<sub>2</sub> correction value, percent.

(iii) Calculate the NO<sub>x</sub> and SO<sub>2</sub> gas concentrations adjusted to 15 percent O<sub>2</sub> using CO<sub>2</sub> as follows:

$$C_{adj} = C_d \frac{X_{CO_2}}{\%CO_2} \quad (\text{Eq. 4})$$

Where:

%CO<sub>2</sub> = Measured CO<sub>2</sub> concentration measured, dry basis, percent.

(f) If you comply with the emission limitation to reduce CO and you are not using an oxidation catalyst, if you comply with the emission limitation to reduce formaldehyde and you are not using NSCR, or if you comply with the emission limitation to limit the concentration of formaldehyde in the stationary RICE exhaust and you are not using an oxidation catalyst or NSCR, you must petition the Administrator for operating limitations to be established during the initial performance test and continuously monitored thereafter; or for approval of no operating limitations. You must not conduct the initial performance test until after the petition has been approved by the Administrator.

(g) If you petition the Administrator for approval of operating limitations, your petition must include the information described in paragraphs (g)(1) through (5) of this section.

(1) Identification of the specific parameters you propose to use as operating limitations;

(2) A discussion of the relationship between these parameters and HAP emissions, identifying how HAP emissions change with changes in these parameters, and how limitations on these parameters will serve to limit HAP emissions;

(3) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the limits on these parameters in the operating limitations;

(4) A discussion identifying the methods you will use to measure and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and

(5) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

(h) If you petition the Administrator for approval of no operating limitations, your petition must include the information described in paragraphs (h)(1) through (7) of this section.

(1) Identification of the parameters associated with operation of the stationary RICE and any emission control device which could change intentionally ( e.g., operator adjustment, automatic controller adjustment, etc.) or unintentionally ( e.g., wear and tear, error, etc.) on a routine basis or over time;

(2) A discussion of the relationship, if any, between changes in the parameters and changes in HAP emissions;

(3) For the parameters which could change in such a way as to increase HAP emissions, a discussion of whether establishing limitations on the parameters would serve to limit HAP emissions;

(4) For the parameters which could change in such a way as to increase HAP emissions, a discussion of how you could establish upper and/or lower values for the parameters which would establish limits on the parameters in operating limitations;

(5) For the parameters, a discussion identifying the methods you could use to measure them and the instruments you could use to monitor them, as well as the relative accuracy and precision of the methods and instruments;

(6) For the parameters, a discussion identifying the frequency and methods for recalibrating the instruments you could use to monitor them; and

(7) A discussion of why, from your point of view, it is infeasible or unreasonable to adopt the parameters as operating limitations.

(i) The engine percent load during a performance test must be determined by documenting the calculations, assumptions, and measurement devices used to measure or estimate the percent load in a specific application. A written report of the average percent load determination must be included in the notification of compliance status. The following information must be included in the written report: the engine model number, the engine manufacturer, the year of purchase, the manufacturer's site-rated brake horsepower, the ambient temperature, pressure, and humidity during the performance test, and all assumptions that were made to estimate or calculate percent load during the performance test must be clearly explained. If measurement devices such as flow meters, kilowatt meters, beta analyzers, stain gauges, etc. are used, the model number of the measurement device, and an estimate of its accuracy in percentage of true value must be provided.

### **§ 63.6625 What are my monitoring, installation, operation, and maintenance requirements?**

[Link to an amendment published at 75 FR 9676, March 3, 2010.](#)

(a) If you elect to install a CEMS as specified in Table 5 of this subpart, you must install, operate, and maintain a CEMS to monitor CO and either oxygen or CO<sub>2</sub> at both the inlet and the outlet of the control device according to the requirements in paragraphs (a)(1) through (4) of this section.

(1) Each CEMS must be installed, operated, and maintained according to the applicable performance specifications of 40 CFR part 60, appendix B.

(2) You must conduct an initial performance evaluation and an annual relative accuracy test audit (RATA) of each CEMS according to the requirements in §63.8 and according to the applicable performance specifications of 40 CFR part 60, appendix B as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.

(3) As specified in §63.8(c)(4)(ii), each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. You must have at least two data points, with each representing a different 15-minute period, to have a valid hour of data.

(4) The CEMS data must be reduced as specified in §63.8(g)(2) and recorded in parts per million or parts per billion (as appropriate for the applicable limitation) at 15 percent oxygen or the equivalent CO<sub>2</sub> concentration.

(b) If you are required to install a continuous parameter monitoring system (CPMS) as specified in Table 5 of this subpart, you must install, operate, and maintain each CPMS according to the requirements in §63.8.

(c) If you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must monitor and record your fuel usage daily with separate fuel meters to measure the volumetric flow rate of each fuel. In addition, you must operate your stationary RICE in a manner which reasonably minimizes HAP emissions.

(d) If you are operating a new or reconstructed emergency 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions, you must install a non-resettable hour meter prior to the startup of the engine.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3606, Jan. 18, 2008]

**§ 63.6630 How do I demonstrate initial compliance with the emission limitations and operating limitations?**

(a) You must demonstrate initial compliance with each emission and operating limitation that applies to you according to Table 5 of this subpart.

(b) During the initial performance test, you must establish each operating limitation in Tables 1b and 2b of this subpart that applies to you.

(c) You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in §63.6645.

**Continuous Compliance Requirements**

**§ 63.6635 How do I monitor and collect data to demonstrate continuous compliance?**

(a) If you must comply with emission and operating limitations, you must monitor and collect data according to this section.

(b) Except for monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), you must monitor continuously at all times that the stationary RICE is operating.

(c) You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels. You must, however, use all the valid data collected during all other periods.

**§ 63.6640 How do I demonstrate continuous compliance with the emission limitations and operating limitations?**

[Link to an amendment published at 75 FR 9676, March 3, 2010.](#)

(a) You must demonstrate continuous compliance with each emission limitation and operating limitation in Tables 1a and 1b and Tables 2a and 2b of this subpart that apply to you according to methods specified in Table 6 of this subpart.

(b) You must report each instance in which you did not meet each emission limitation or operating limitation in Tables 1a and 1b and Tables 2a and 2b of this subpart that apply to you. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in §63.6650. If you change your catalyst, you must reestablish the values of the operating parameters measured during the initial performance test. When you reestablish the values of your operating parameters, you must also conduct a performance test to demonstrate that you are meeting the required emission limitation applicable to your stationary RICE.

(c) [Reserved]

(d) Consistent with §§63.6(e) and 63.7(e)(1), deviations from the emission or operating limitations that occur during a period of startup, shutdown, or malfunction are not violations if you demonstrate to the Administrator's satisfaction that you were operating in accordance with §63.6(e)(1). For new, reconstructed,

and rebuilt stationary RICE, deviations from the emission or operating limitations that occur during the first 200 hours of operation from engine startup (engine burn-in period) are not violations.

Rebuilt stationary RICE means a stationary RICE that has been rebuilt as that term is defined in 40 CFR §94.11(a).

(e) You must also report each instance in which you did not meet the requirements in Table 8 to this subpart that apply to you. If you own or operate any stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing CI stationary RICE, an existing emergency stationary RICE, an existing limited use emergency stationary RICE, or an existing stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart, except for the initial notification requirements: a new or reconstructed stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new or reconstructed emergency stationary RICE, or a new or reconstructed limited use stationary RICE.

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3606, Jan. 18, 2008]

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

### **§ 63.6645 What notifications must I submit and when?**

[Link to an amendment published at 75 FR 9677, March 3, 2010.](#)

(a) If you own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions or a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 HP located at a major source of HAP emissions, you must submit all of the notifications in §§63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), and (g) and (h) that apply to you by the dates specified.

(b) As specified in §63.9(b)(2), if you start up your stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before the effective date of this subpart, you must submit an Initial Notification not later than December 13, 2004.

(c) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions on or after August 16, 2004, you must submit an Initial Notification not later than 120 days after you become subject to this subpart.

(d) As specified in §63.9(b)(2), if you start up your stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions before the effective date of this subpart and you are required to submit an initial notification, you must submit an Initial Notification not later than July 16, 2008.

(e) If you start up your new or reconstructed stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions on or after March 18, 2008 and you are required to submit an initial notification, you must submit an Initial Notification not later than 120 days after you become subject to this subpart.

(f) If you are required to submit an Initial Notification but are otherwise not affected by the requirements of this subpart, in accordance with §63.6590(b), your notification should include the information in §63.9(b)(2)(i) through (v), and a statement that your stationary RICE has no additional requirements and explain the basis

of the exclusion (for example, that it operates exclusively as an emergency stationary RICE if it has a site rating of more than 500 brake HP located at a major source of HAP emissions).

(g) If you are required to conduct a performance test, you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin as required in §63.7(b)(1).

(h) If you are required to conduct a performance test or other initial compliance demonstration as specified in Tables 4 and 5 to this subpart, you must submit a Notification of Compliance Status according to §63.9(h)(2)(ii).

(1) For each initial compliance demonstration required in Table 5 to this subpart that does not include a performance test, you must submit the Notification of Compliance Status before the close of business on the 30th day following the completion of the initial compliance demonstration.

(2) For each initial compliance demonstration required in Table 5 to this subpart that includes a performance test conducted according to the requirements in Table 3 to this subpart, you must submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th day following the completion of the performance test according to §63.10(d)(2).

[73 FR 3606, Jan. 18, 2008]

#### **§ 63.6650 What reports must I submit and when?**

[Link to an amendment published at 75 FR 9677, March 3, 2010.](#)

(a) You must submit each report in Table 7 of this subpart that applies to you.

(b) Unless the Administrator has approved a different schedule for submission of reports under §63.10(a), you must submit each report by the date in Table 7 of this subpart and according to the requirements in paragraphs (b)(1) through (5) of this section.

(1) The first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.6595 and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in §63.6595.

(2) The first Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified for your affected source in §63.6595.

(3) Each subsequent Compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(4) Each subsequent 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.

(5) For each stationary RICE that is subject to permitting regulations pursuant to 40 CFR part 70 or 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 dates in paragraphs (b)(1) through (4) of this section.

(c) The Compliance report must contain the information in paragraphs (c)(1) through (6) of this section.

(1) Company name and address.

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

(3) Date of report and beginning and ending dates of the reporting period.

(4) If you had a startup, shutdown, or malfunction during the reporting period, the compliance report must include the information in §63.10(d)(5)(i).

(5) If there are no deviations from any emission or operating limitations that apply to you, a statement that there were no deviations from the emission or operating limitations during the reporting period.

(6) If there were no periods during which the continuous monitoring system (CMS), including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were no periods during which the CMS was out-of-control during the reporting period.

(d) For each deviation from an emission or operating limitation that occurs for a stationary RICE where you are not using a CMS to comply with the emission or operating limitations in this subpart, the Compliance report must contain the information in paragraphs (c)(1) through (4) of this section and the information in paragraphs (d)(1) and (2) of this section.

(1) The total operating time of the stationary RICE at which the deviation occurred during the reporting period.

(2) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

(e) For each deviation from an emission or operating limitation occurring for a stationary RICE where you are using a CMS to comply with the emission and operating limitations in this subpart, you must include information in paragraphs (c)(1) through (4) and (e)(1) through (12) of this section.

(1) The date and time that each malfunction started and stopped.

(2) The date, time, and duration that each CMS was inoperative, except for zero (low-level) and high-level checks.

(3) The date, time, and duration that each CMS was out-of-control, including the information in §63.8(c)(8).

(4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction or during another period.

(5) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period.

(6) A breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percent of the total operating time of the stationary RICE at which the CMS downtime occurred during that reporting period.

(8) An identification of each parameter and pollutant (CO or formaldehyde) that was monitored at the stationary RICE.

(9) A brief description of the stationary RICE.

(10) A brief description of the CMS.

(11) The date of the latest CMS certification or audit.

(12) A description of any changes in CMS, processes, or controls since the last reporting period.

(f) Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 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 Compliance report pursuant to Table 7 of this subpart 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 Compliance report includes all required information concerning deviations from any emission or operating limitation in this subpart, submission of the Compliance report shall be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a Compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority.

(g) If you are operating as a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must submit an annual report according to Table 7 of this subpart by the date specified unless the Administrator has approved a different schedule, according to the information described in paragraphs (b)(1) through (b)(5) of this section. You must report the data specified in (g)(1) through (g)(3) of this section.

(1) Fuel flow rate of each fuel and the heating values that were used in your calculations. You must also demonstrate that the percentage of heat input provided by landfill gas or digester gas is equivalent to 10 percent or more of the total fuel consumption on an annual basis.

(2) The operating limits provided in your federally enforceable permit, and any deviations from these limits.

(3) Any problems or errors suspected with the meters.

### **§ 63.6655 What records must I keep?**

[Link to an amendment published at 75 FR 9678, March 3, 2010.](#)

(a) If you must comply with the emission and operating limitations, you must keep the records described in paragraphs (a)(1) through (a)(3), (b)(1) through (b)(3) and (c) of this section.

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirement in §63.10(b)(2)(xiv).

(2) The records in §63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.

(3) Records of performance tests and performance evaluations as required in §63.10(b)(2)(viii).

(b) For each CEMS or CPMS, you must keep the records listed in paragraphs (b)(1) through (3) of this section.

(1) Records described in §63.10(b)(2)(vi) through (xi).

(2) Previous ( *i.e.*, superseded) versions of the performance evaluation plan as required in §63.8(d)(3).

(3) Requests for alternatives to the relative accuracy test for CEMS or CPMS as required in §63.8(f)(6)(i), if applicable.

(c) If you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must keep the records of your daily fuel usage monitors.

(d) You must keep the records required in Table 6 of this subpart to show continuous compliance with each emission or operating limitation that applies to you.

### **§ 63.6660 In what form and how long must I keep my records?**

[Link to an amendment published at 75 FR 9678, March 3, 2010.](#)

(a) Your records must be in a form suitable and readily available for expeditious review according to §63.10(b)(1).

(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 readily accessible in hard copy or electronic form 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 can keep the records off-site for the remaining 3 years.

### **Other Requirements and Information**

### **§ 63.6665 What parts of the General Provisions apply to me?**

[Link to an amendment published at 75 FR 9678, March 3, 2010.](#)

Table 8 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you. If you own or operate any stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with any of the requirements of the General Provisions: An existing 2SLB RICE, an existing 4SLB stationary RICE, an existing CI stationary RICE, 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, an existing emergency stationary RICE, or an existing limited use stationary RICE. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in the General Provisions except for the initial notification requirements: A new stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new emergency stationary RICE, or a new limited use stationary RICE.

[73 FR 3606, Jan. 18, 2008]

### **§ 63.6670 Who implements and enforces this subpart?**

(a) This subpart is implemented and enforced by the U.S. EPA, or a delegated authority such as your State, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency (as well as the U.S. EPA) has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out whether 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 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are retained by the Administrator of the U.S. EPA 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:

- (1) Approval of alternatives to the non-opacity emission limitations and operating limitations in §63.6600 under §63.6(g).
- (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.
- (5) Approval of a performance test which was conducted prior to the effective date of the rule, as specified in §63.6610(b).

### **§ 63.6675 What definitions apply to this subpart?**

[Link to an amendment published at 75 FR 9679, March 3, 2010.](#)

Terms used in this subpart are defined in the Clean Air Act (CAA); in 40 CFR 63.2, the General Provisions of this part; and in this section as follows:

*Area source* means any stationary source of HAP that is not a major source as defined in part 63.

*Associated equipment* as used in this subpart and as referred to in section 112(n)(4) of the CAA, means equipment associated with an oil or natural gas exploration or production well, and includes all equipment from the well bore to the point of custody transfer, except glycol dehydration units, storage vessels with potential for flash emissions, combustion turbines, and stationary RICE.

*CAA* means the Clean Air Act (42 U.S.C. 7401 *et seq.*, as amended by Public Law 101-549, 104 Stat. 2399).

*Compression ignition* means relating to a type of stationary internal combustion engine that is not a spark ignition engine.

*Custody transfer* means the transfer of hydrocarbon liquids or natural gas: After processing and/or treatment in the producing operations, or from storage vessels or automatic transfer facilities or other such equipment, including product loading racks, to pipelines or any other forms of transportation. For the purposes of this subpart, the point at which such liquids or natural gas enters a natural gas processing plant is a point of custody transfer.

*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 limitation or operating limitation;
- (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 limitation or operating limitation in this subpart during malfunction, regardless or whether or not such failure is permitted by this subpart.
- (4) Fails to satisfy the general duty to minimize emissions established by §63.6(e)(1)(i).

*Diesel engine* means any stationary RICE in which a high boiling point liquid fuel injected into the combustion chamber ignites when the air charge has been compressed to a temperature sufficiently high for auto-ignition. This process is also known as compression ignition.

*Diesel fuel* means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is fuel oil number 2.

*Digester gas* means any gaseous by-product of wastewater treatment typically formed through the anaerobic decomposition of organic waste materials and composed principally of methane and CO<sub>2</sub>.

*Dual-fuel engine* means any stationary RICE in which a liquid fuel (typically diesel fuel) is used for compression ignition and gaseous fuel (typically natural gas) is used as the primary fuel.

*Emergency stationary RICE* means any stationary RICE whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary RICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary RICE used to pump water in the case of fire or flood, etc. Stationary RICE used for peak shaving are not considered emergency stationary RICE. Stationary ICE used to supply power to an electric grid or that supply power as part of a financial arrangement with another entity are not considered to be emergency engines. Emergency stationary RICE with a site-rating of more than 500 brake HP located at a major source of HAP emissions that were installed prior to June 12, 2006, may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by the manufacturer, the vendor, or the insurance company associated with the engine. Required testing of such units should be minimized, but there is no time limit on the use of emergency stationary RICE in emergency situations and for routine testing and maintenance. Emergency stationary RICE with a site-rating of more than 500 brake HP located at a major source of HAP emissions that were installed prior to June 12, 2006, may also operate an additional 50 hours per year in non-emergency situations. Emergency stationary RICE with a site-rating of more than 500 brake HP located at a major source of HAP emissions that were installed on or after June 12, 2006, must comply with requirements specified in 40 CFR 60.4243(d).

*Four-stroke engine* means any type of engine which completes the power cycle in two crankshaft revolutions, with intake and compression strokes in the first revolution and power and exhaust strokes in the second revolution.

*Gaseous fuel* means a material used for combustion which is in the gaseous state at standard atmospheric temperature and pressure conditions.

*Gasoline* means any fuel sold in any State for use in motor vehicles and motor vehicle engines, or nonroad or stationary engines, and commonly or commercially known or sold as gasoline.

*Glycol dehydration unit* means a device in which a liquid glycol (including, but not limited to, ethylene glycol, diethylene glycol, or triethylene glycol) absorbent directly contacts a natural gas stream and absorbs water in a contact tower or absorption column (absorber). The glycol contacts and absorbs water vapor and other gas stream constituents from the natural gas and becomes "rich" glycol. This glycol is then regenerated in the glycol dehydration unit reboiler. The "lean" glycol is then recycled.

*Hazardous air pollutants (HAP)* means any air pollutants listed in or pursuant to section 112(b) of the CAA.

*ISO standard day conditions* means 288 degrees Kelvin (15 degrees Celsius), 60 percent relative humidity and 101.3 kilopascals pressure.

*Landfill gas* means a gaseous by-product of the land application of municipal refuse typically formed through the anaerobic decomposition of waste materials and composed principally of methane and CO<sub>2</sub>.

*Lean burn engine* means any two-stroke or four-stroke spark ignited engine that does not meet the definition of a rich burn engine.

*Limited use stationary RICE* means any stationary RICE that operates less than 100 hours per year.

*Liquefied petroleum gas* means any liquefied hydrocarbon gas obtained as a by-product in petroleum refining of natural gas production.

*Liquid fuel* means any fuel in liquid form at standard temperature and pressure, including but not limited to diesel, residual/crude oil, kerosene/naphtha (jet fuel), and gasoline.

*Major Source*, as used in this subpart, shall have the same meaning as in §63.2, except that:

(1) Emissions from any oil or gas exploration or production well (with its associated equipment (as defined in this section)) and emissions from any pipeline compressor station or pump station shall not be aggregated with emissions from other similar units, to determine whether such emission points or stations are major sources, even when emission points are in a contiguous area or under common control;

(2) For oil and gas production facilities, emissions from processes, operations, or equipment that are not part of the same oil and gas production facility, as defined in §63.1271 of subpart HHH of this part, shall not be aggregated;

(3) For production field facilities, only HAP emissions from glycol dehydration units, storage vessel with the potential for flash emissions, combustion turbines and reciprocating internal combustion engines shall be aggregated for a major source determination; and

(4) Emissions from processes, operations, and equipment that are not part of the same natural gas transmission and storage facility, as defined in §63.1271 of subpart HHH of this part, shall not be aggregated.

*Malfunction* means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner which causes, or has the potential to cause, the emission limitations in an applicable standard to be exceeded. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

*Natural gas* means a naturally occurring mixture of hydrocarbon and non-hydrocarbon gases found in geologic formations beneath the Earth's surface, of which the principal constituent is methane. Natural gas may be field or pipeline quality.

*Non-selective catalytic reduction (NSCR)* means an add-on catalytic nitrogen oxides (NO<sub>x</sub>) control device for rich burn engines that, in a two-step reaction, promotes the conversion of excess oxygen, NO<sub>x</sub>, CO, and volatile organic compounds (VOC) into CO<sub>2</sub>, nitrogen, and water.

*Oil and gas production facility* as used in this subpart means any grouping of equipment where hydrocarbon liquids are processed, upgraded ( *i.e.*, remove impurities or other constituents to meet contract specifications), or stored prior to the point of custody transfer; or where natural gas is processed, upgraded, or stored prior to entering the natural gas transmission and storage source category. For purposes of a major source determination, facility (including a building, structure, or installation) means oil and natural gas production and processing equipment that is located within the boundaries of an individual surface site as defined in this section. Equipment that is part of a facility will typically be located within close proximity to other equipment located at the same facility. Pieces of production equipment or groupings of equipment located on different oil and gas leases, mineral fee tracts, lease tracts, subsurface or surface unit areas, surface fee tracts, surface lease tracts, or separate surface sites, whether or not connected by a road, waterway, power line or pipeline, shall not be considered part of the same facility. Examples of facilities in the oil and natural gas production source category include, but are not limited to, well sites, satellite tank batteries, central tank batteries, a compressor station that transports natural gas to a natural gas processing plant, and natural gas processing plants.

*Oxidation catalyst* means an add-on catalytic control device that controls CO and VOC by oxidation.

*Peaking unit or engine* means any standby engine intended for use during periods of high demand that are not emergencies.

*Percent load* means the fractional power of an engine compared to its maximum manufacturer's design capacity at engine site conditions. Percent load may range between 0 percent to above 100 percent.

*Potential to emit* means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the stationary source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable. For oil and natural gas production facilities subject to subpart HH of this part, the potential to emit provisions in §63.760(a) may be used. For natural gas transmission and storage facilities subject to subpart HHH of this part, the maximum annual facility gas throughput for storage facilities may be determined according to §63.1270(a)(1) and the maximum annual throughput for transmission facilities may be determined according to §63.1270(a)(2).

*Production field facility* means those oil and gas production facilities located prior to the point of custody transfer.

*Production well* means any hole drilled in the earth from which crude oil, condensate, or field natural gas is extracted.

*Propane* means a colorless gas derived from petroleum and natural gas, with the molecular structure  $C_3H_8$ .

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

*Rich burn engine* means any four-stroke spark ignited engine where the manufacturer's recommended operating air/fuel ratio divided by the stoichiometric air/fuel ratio at full load conditions is less than or equal to 1.1. Engines originally manufactured as rich burn engines, but modified prior to December 19, 2002 with passive emission control technology for  $NO_x$  (such as pre-combustion chambers) will be considered lean burn engines. Also, existing engines where there are no manufacturer's recommendations regarding air/fuel ratio will be considered a rich burn engine if the excess oxygen content of the exhaust at full load conditions is less than or equal to 2 percent.

*Site-rated HP* means the maximum manufacturer's design capacity at engine site conditions.

*Spark ignition* means relating to either: A gasoline-fueled engine; or any other type of engine a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark ignition engines usually use a throttle to regulate intake air flow to control power during normal operation. Dual-fuel engines in which a liquid fuel (typically diesel fuel) is used for CI and gaseous fuel (typically natural gas) is used as the primary fuel at an annual average ratio of less than 2 parts diesel fuel to 100 parts total fuel on an energy equivalent basis are spark ignition engines.

*Stationary reciprocating internal combustion engine (RICE)* means any reciprocating internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

*Stationary RICE test cell/stand* means an engine test cell/stand, as defined in subpart P of this part, that tests stationary RICE.

*Stoichiometric* means the theoretical air-to-fuel ratio required for complete combustion.

*Storage vessel with the potential for flash emissions* means any storage vessel that contains a hydrocarbon liquid with a stock tank gas-to-oil ratio equal to or greater than 0.31 cubic meters per liter and an American Petroleum Institute gravity equal to or greater than 40 degrees and an actual annual average hydrocarbon

liquid throughput equal to or greater than 79,500 liters per day. Flash emissions occur when dissolved hydrocarbons in the fluid evolve from solution when the fluid pressure is reduced.

*Subpart* means 40 CFR part 63, subpart ZZZZ.

*Surface site* means any combination of one or more graded pad sites, gravel pad sites, foundations, platforms, or the immediate physical location upon which equipment is physically affixed.

*Two-stroke engine* means a type of engine which completes the power cycle in single crankshaft revolution by combining the intake and compression operations into one stroke and the power and exhaust operations into a second stroke. This system requires auxiliary scavenging and inherently runs lean of stoichiometric.

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3607, Jan. 18, 2008]

**Table 1a to Subpart ZZZZ of Part 63—Emission Limitations for Existing, New, and Reconstructed Spark Ignition, 4SRB Stationary RICE >500 HP Located at a Major Source of HAP Emissions**

[Link to an amendment published at 75 FR 9679, March 3, 2010.](#)

[As stated in §63.6600, you must comply with the following emission limitations for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions at 100 percent load plus or minus 10 percent]

For each...	You must meet the following emission limitations...
1. 4SRB stationary RICE	a. reduce formaldehyde emissions by 76 percent or more. If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004, you may reduce formaldehyde emissions by 75 percent or more until June 15, 2007;
	or
	b. limit the concentration of formaldehyde in the stationary RICE exhaust 350 ppbvd or less at 15 percent O <sub>2</sub> .

[73 FR 3607, Jan. 18, 2008]

**Table 1b to Subpart ZZZZ of Part 63—Operating Limitations for Existing, New, and Reconstructed Spark Ignition, 4SRB Stationary RICE >500 HP Located at a Major Source of HAP Emissions**

[As stated in §§63.6600, 63.6630 and 63.6640, you must comply with the following operating emission limitations for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions]

For each...	You must meet the following operating limitation...
1. 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and using	a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst

NSCR; or	measured during the initial performance test; and
4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O <sub>2</sub> and using NSCR.	b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 750 °F and less than or equal to 1250 °F.
2. 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and not using NSCR; or	Comply with any operating limitations approved by the Administrator.
4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O <sub>2</sub> and not using NSCR.	

[73 FR 3607, Jan. 18, 2008]

**Table 2 to Subpart ZZZZ of Part 63—Emission Limitations for New and Reconstructed 2SLB and Compression Ignition Stationary RICE >500 HP and 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions**

[Link to an amendment published at 75 FR 9680, March 3, 2010.](#)

[As stated in §§63.6600 and 63.6601, you must comply with the following emission limitations for new and reconstructed lean burn and new and reconstructed compression ignition stationary RICE at 100 percent load plus or minus 10 percent]

<b>For each...</b>	<b>You must meet the following emission limitation...</b>
1. 2SLB stationary RICE	a. reduce CO emissions by 58 percent or more;
	or
	b. limit concentration of formaldehyde in the stationary RICE exhaust to 12 ppmvd or less at 15 percent O <sub>2</sub> . If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004, you may limit concentration of formaldehyde to 17 ppmvd or less at 15 percent O <sub>2</sub> until June 15, 2007.
2. 4SLB stationary RICE	a. reduce CO emissions by 93 percent or more;
	or

	b. limit concentration of formaldehyde in the stationary RICE exhaust to 14 ppmvd or less at 15 percent O <sub>2</sub> .
3. CI stationary RICE	a. reduce CO emissions by 70 percent or more;
	or
	b. limit concentration of formaldehyde in the stationary RICE exhaust to 580 ppbvd or less at 15 percent O <sub>2</sub> .

[73 FR 3608, Jan. 18, 2008]

Table 2b to Subpart ZZZZ of Part 63—Operating Limitations for New and Reconstructed 2SLB and Compression Ignition Stationary RICE >500 HP and 4SLB Burn Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions

[Link to an amendment published at 75 FR 9680, March 3, 2010.](#)

[As stated in §§63.6600, 63.6601, 63.6630, and 63.6640, you must comply with the following operating limitations for new and reconstructed lean burn and new and reconstructed compression ignition stationary]

For each...	You must meet the following operating limitation...
1. 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to reduce CO emissions and using an oxidation catalyst; or 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and using an oxidation catalyst	a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst that was measured during the initial performance test; and b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1350 °F.
2. 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to reduce CO emissions and not using an oxidation catalyst; or 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and not using an oxidation catalyst	Comply with any operating limitations approved by the Administrator.

[73 FR 3608, Jan. 18, 2008]

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[Link to an amendment published at 75 FR 9681, March 3, 2010.](#)

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[Link to an amendment published at 75 FR 9681, March 3, 2010.](#)

**Table 3 to Subpart ZZZZ of Part 63—Subsequent Performance Tests**

[Link to an amendment published at 75 FR 9682, March 3, 2010.](#)

[As stated in §§63.6615 and 63.6620, you must comply with the following subsequent performance test requirements]

<b>For each . . .</b>	<b>Complying with the requirement to . . .</b>	<b>You must . . .</b>
1. 2SLB and 4SLB stationary RICE and CI stationary RICE	Reduce CO emissions and not using a CEMS	Conduct subsequent performance tests semiannually. <sup>1</sup>
2. 4SRB stationary RICE with a brake horsepower $\geq$ 5,000	Reduce formaldehyde emissions	Conduct subsequent performance tests semiannually. <sup>1</sup>
3. Stationary RICE (all stationary RICE subcategories and all brake horsepower ratings)	Limit the concentration of formaldehyde in the stationary RICE exhaust	Conduct subsequent performance tests semiannually. <sup>1</sup>

<sup>1</sup>After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

**Table 4 to Subpart ZZZZ of Part 63—Requirements for Performance Tests**

[Link to an amendment published at 75 FR 9682, March 3, 2010.](#)

[As stated in §§63.6610, 63.6611, 63.6620, and 63.6640, you must comply with the following requirements for performance tests for stationary RICE]

<b>For each . . .</b>	<b>Complying with the requirement to . . .</b>	<b>You must . . .</b>	<b>Using . . .</b>	<b>According to the following requirements . . .</b>
1. 2SLB, 4SLB, and CI stationary RICE	a. Reduce CO emissions	i. Measure the O <sub>2</sub> at the inlet and outlet of the control device; and	(1) Portable CO and O <sub>2</sub> analyzer	(a) Using ASTM D6522–00 (2005) <sup>a</sup> (incorporated by reference, see §63.14). Measurements to determine O <sub>2</sub> must be made at the same time as

				the measurements for CO concentration.
		ii. Measure the CO at the inlet and the outlet of the control device	(1) Portable CO and O <sub>2</sub> analyzer	(a) Using ASTM D6522–00 (2005) <sup>a</sup> (incorporated by reference, see §63.14) or Method 10 of 40 CFR, appendix A. The CO concentration must be at 15 percent O <sub>2</sub> , dry basis.
2. 4SRB stationary RICE	a. Reduce formaldehyde emissions	i. Select the sampling port location and the number of traverse points; and	(1) Method 1 or 1A of 40 CFR part 60, appendix A §63.7(d)(1)(i)	(a) Sampling sites must be located at the inlet and outlet of the control device.
		ii. Measure O <sub>2</sub> at the inlet and outlet of the control device; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A, or ASTM Method D6522–00 (2005).	(a) Measurements to determine O <sub>2</sub> concentration must be made at the same time as the measurements for formaldehyde concentration.
		iii. Measure moisture content at the inlet and outlet of the control device; and	(1) Method 4 of 40 CFR part 60, appendix A, or Test Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348–03	(a) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde concentration.
		iv. Measure formaldehyde at the inlet and the outlet of the control device	(1) Method 320 or 323 of 40 CFR part 63, appendix A; or ASTM D6348–03 <sup>b</sup> , provided in ASTM D6348–03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130	(a) Formaldehyde concentration must be at 15 percent O <sub>2</sub> , dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
3. Stationary RICE	a. Limit the concentration of formaldehyde in the stationary	i. Select the sampling port location and the number of	(1) Method 1 or 1A of 40 CFR part 60, appendix A §63.7(d)(1)(i)	(a) If using a control device, the sampling site must be located at the outlet of the control

	RICE exhaust	traverse points; and		device.
		ii. Determine the O <sub>2</sub> concentration of the stationary RICE exhaust at the sampling port location; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A, or ASTM Method D6522-00 (2005)	(a) Measurements to determine O <sub>2</sub> concentration must be made at the same time and location as the measurements for formaldehyde concentration.
		iii. Measure moisture content of the stationary RICE exhaust at the sampling port location; and	(1) Method 4 of 40 CFR part 60, appendix A, or Test Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03	(a) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde concentration.
		iv. Measure formaldehyde at the exhaust of the stationary RICE	(1) Method 320 or 323 of 40 CFR part 63, appendix A; or ASTM D6348-03 <sup>b</sup> , provided in ASTM D6348-03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130	(a) Formaldehyde concentration must be at 15 percent O <sub>2</sub> , dry basis. Results of this test consist of the average of the three 1-hour or longer runs.

<sup>a</sup>You may also use Methods 3A and 10 as options to ASTM-D6522-00 (2005). You may obtain a copy of ASTM-D6522-00 (2005) from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

<sup>b</sup>You may obtain a copy of ASTM-D6348-03 from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

[73 FR 3609, Jan. 18, 2008]

**Table 5 to Subpart ZZZZ of Part 63—Initial Compliance With Emission Limitations and Operating Limitations**

[Link to an amendment published at 75 FR 9684, March 3, 2010.](#)

[As stated in §§63.6625 and 63.6630, you must initially comply with the emission and operating limitations as required by the following]

<b>For each ...</b>	<b>Complying with the requirement to ...</b>	<b>You have demonstrated initial compliance if ...</b>
1. 2SLB and 4SLB stationary RICE and CI stationary RICE	a. Reduce CO emissions and using oxidation catalyst, and using a CPMS	i. the average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and
		iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
2. 2SLB and 4SLB stationary RICE and CI stationary RICE	a. Reduce CO emissions and not using oxidation catalyst	i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and
		ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
3. 2SLB and 4SLB stationary RICE and CI stationary RICE	a. Reduce CO emissions, and using a CEMS	i. You have installed a CEMS to continuously monitor CO and either O <sub>2</sub> or CO <sub>2</sub> at both the inlet and outlet of the oxidation catalyst according to the requirements in §63.6625(a); and
		ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B; and
		iii. The average reduction of CO calculated using §63.6620 equals or exceeds the required percent reduction. The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is based on the average percent reduction achieved during the 4-hour period.
4. 4SRB stationary RICE	a. Reduce formaldehyde emissions and using NSCR	i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction; and
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and

		iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
5. 4SRB stationary RICE	a. Reduce formaldehyde emissions and not using NSCR	i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction; and
		ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
6. Stationary RICE	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR	i. The average formaldehyde concentration, corrected to 15 percent O <sub>2</sub> , dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and
		iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
7. Stationary RICE	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR	i. The average formaldehyde concentration, corrected to 15 percent O <sub>2</sub> , dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and
		ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.

**Table 6 to Subpart ZZZZ of Part 63—Continuous Compliance With Emission Limitations and Operating Limitations**

[Link to an amendment published at 75 FR 9685, March 3, 2010.](#)

[As stated in §63.6640, you must continuously comply with the emissions and operating limitations as required by the following]

<b>For each . . .</b>	<b>Complying with the requirement to . . .</b>	<b>You must demonstrate continuous compliance by . . .</b>
1. 2SLB and 4SLB stationary RICE and CI stationary RICE	a. Reduce CO emissions and using an oxidation catalyst, and using a CPMS	i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved <sup>1</sup> ; and
		ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
2. 2SLB and 4SLB stationary RICE and CI stationary RICE	a. Reduce CO emissions and not using an oxidation catalyst, and using a CPMS	i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved <sup>1</sup> ; and
		ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
3. 2SLB and 4SLB stationary RICE and CI stationary RICE	a. Reduce CO emissions and using a CEMS	i. Collecting the monitoring data according to §63.6625(a), reducing the measurements to 1-hour averages, calculating the percent reduction of CO emissions according to §63.6620; and
		ii. Demonstrating that the catalyst achieves the required percent reduction of CO emissions over the 4-hour averaging period; and
		iii. Conducting an annual RATA of your

		CEMS using PS 3 and 4A of 40 CFR part 60, appendix B, as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.
4. 4SRB stationary RICE	a. Reduce formaldehyde emissions and using NSCR	i. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		ii. Reducing these data to 4-hour rolling averages; and
		iii. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		iv. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
5. 4SRB stationary RICE	a. Reduce formaldehyde emissions and not using NSCR	i. Collecting the approved operating parameter (if any) data according to §63.6625(b); and
		ii. reducing these data to 4-hour rolling averages;
		iii. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
6. 4SRB stationary RICE with a brake horsepower $\geq 5,000$	Reduce formaldehyde emissions	Conducting semiannual performance tests for formaldehyde to demonstrate that the required formaldehyde percent reduction is achieved <sup>1</sup> .
7. Stationary RICE	Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR	i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit <sup>1</sup> ; and
		ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and

		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
8. Stationary RICE	Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR	i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit <sup>1</sup> ; and
		ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and
		ii. Reducing these data to 4-hour rolling averages; and
		iii. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.

<sup>1</sup>After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

**Table 7 to Subpart ZZZZ of Part 63—Requirements for Reports**

[Link to an amendment published at 75 FR 9687, March 3, 2010.](#)

[As stated in §63.6650, you must comply with the following requirements for reports]

<b>You must submit a(n)</b>	<b>The report must contain . . .</b>	<b>You must submit the report . . .</b>
1. Compliance report	a. If there are no deviations from any emission limitations or operating limitations that apply to you, a statement that there were no deviations from the emission limitations or operating limitations during the reporting period. If there were no periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were not periods during which the CMS was out-of-control during the reporting period; or	i. Semiannually according to the requirements in §63.6650(b).

	b. If you had a deviation from any emission limitation or operating limitation during the reporting period, the information in §63.6650(d). If there were periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), the information in §63.6650(e); or	i. Semiannually according to the requirements in §63.6650(b).
	c. If you had a startup, shutdown or malfunction during the reporting period, the information in §63.10(d)(5)(i)	i. Semiannually according to the requirements in §63.6650(b).
2. An immediate startup, shutdown, and malfunction report if actions addressing the startup, shutdown, or malfunction were inconsistent with your startup, shutdown, or malfunction plan during the reporting period	a. Actions taken for the event; and	i. By fax or telephone within 2 working days after starting actions inconsistent with the plan.
	b. The information in §63.10(d)(5)(ii).	i. By letter within 7 working days after the end of the event unless you have made alternative arrangements with the permitting authorities. (§63.10(d)(5)(ii))
3. Report	a. The fuel flow rate of each fuel and the heating values that were used in your calculations, and you must demonstrate that the percentage of heat input provided by landfill gas or digester gas, is equivalent to 10 percent or more of the gross heat input on an annual basis; and	i. Annually, according to the requirements in §63.6650.
	b. The operating limits provided in your federally enforceable permit, and any deviations from these limits; and	i. See item 3.a.i.
	c. Any problems or errors suspected with the meters	i. See item 3.a.i.

**Table 8 to Subpart ZZZZ of Part 63—Applicability of General Provisions to Subpart ZZZZ**

[Link to an amendment published at 75 FR 9688, March 3, 2010.](#)

[As stated in §63.6665, you must comply with the following applicable general provisions]

<b>General provisions citation</b>	<b>Subject of citation</b>	<b>Applies to subpart</b>	<b>Explanation</b>
§63.1	General applicability of the General Provisions	Yes	
§63.2	Definitions	Yes	Additional terms defined in §63.6675.
§63.3	Units and abbreviations	Yes	
§63.4	Prohibited activities and circumvention	Yes	
§63.5	Construction and reconstruction	Yes	
§63.6(a)	Applicability	Yes	
§63.6(b)(1)–(4)	Compliance dates for new and reconstructed sources	Yes	
§63.6(b)(5)	Notification	Yes	
§63.6(b)(6)	[Reserved]		
§63.6(b)(7)	Compliance dates for new and reconstructed area sources that become major sources	Yes	
§63.6(c)(1)–(2)	Compliance dates for existing sources	Yes	
§63.6(c)(3)–(4)	[Reserved]		
§36.6(c)(5)	Compliance dates for existing area sources that become major sources	Yes	
§63.6(d)	[Reserved]		
§63.6(e)(1)	Operation and maintenance	Yes	
§63.6(e)(2)	[Reserved]		
§63.6(e)(3)	Startup, shutdown, and malfunction plan	Yes	
§63.6(f)(1)	Applicability of standards except during startup shutdown malfunction (SSM)	Yes	
§63.6(f)(2)	Methods for determining compliance	Yes	

§63.6(f)(3)	Finding of compliance	Yes	
§63.6(g)(1)–(3)	Use of alternate standard	Yes	
§63.6(h)	Opacity and visible emission standards	No	Subpart ZZZZ does not contain opacity or visible emission standards.
§63.6(i)	Compliance extension procedures and criteria	Yes	
§63.6(j)	Presidential compliance exemption	Yes	
§63.7(a)(1)–(2)	Performance test dates	Yes	Subpart ZZZZ contains performance test dates at §§63.6610 and 63.6611.
§63.7(a)(3)	CAA section 114 authority	Yes	
§63.7(b)(1)	Notification of performance test	Yes	
§63.7(b)(2)	Notification of rescheduling	Yes	
§63.7(c)	Quality assurance/test plan	Yes	
§63.7(d)	Testing facilities	Yes	
§63.7(e)(1)	Conditions for conducting performance tests	Yes	
§63.7(e)(2)	Conduct of performance tests and reduction of data	Yes	Subpart ZZZZ specifies test methods at §63.6620.
§63.7(e)(3)	Test run duration	Yes	
§63.7(e)(4)	Administrator may require other testing under section 114 of the CAA	Yes	
§63.7(f)	Alternative test method provisions	Yes	
§63.7(g)	Performance test data analysis, recordkeeping, and reporting	Yes	
§63.7(h)	Waiver of tests	Yes	
§63.8(a)(1)	Applicability of monitoring requirements	Yes	Subpart ZZZZ contains specific requirements for monitoring at §63.6625.
§63.8(a)(2)	Performance specifications	Yes	

§63.8(a)(3)	[Reserved]		
§63.8(a)(4)	Monitoring for control devices	No	
§63.8(b)(1)	Monitoring	Yes	
§63.8(b)(2)–(3)	Multiple effluents and multiple monitoring systems	Yes	
§63.8(c)(1)	Monitoring system operation and maintenance	Yes	
§63.8(c)(1)(i)	Routine and predictable SSM	Yes	
§63.8(c)(1)(ii)	SSM not in Startup Shutdown Malfunction Plan	Yes	
§63.8(c)(1)(iii)	Compliance with operation and maintenance requirements	Yes	
§63.8(c)(2)–(3)	Monitoring system installation	Yes	
§63.8(c)(4)	Continuous monitoring system (CMS) requirements	Yes	Except that subpart ZZZZ does not require Continuous Opacity Monitoring System (COMS).
§63.8(c)(5)	COMS minimum procedures	No	Subpart ZZZZ does not require COMS.
§63.8(c)(6)–(8)	CMS requirements	Yes	Except that subpart ZZZZ does not require COMS.
§63.8(d)	CMS quality control	Yes	
§63.8(e)	CMS performance evaluation	Yes	Except for §63.8(e)(5)(ii), which applies to COMS.
§63.8(f)(1)–(5)	Alternative monitoring method	Yes	
§63.8(f)(6)	Alternative to relative accuracy test	Yes	
§63.8(g)	Data reduction	Yes	Except that provisions for COMS are not applicable. Averaging periods for demonstrating compliance are specified at §§63.6635 and 63.6640.
§63.9(a)	Applicability and State delegation of notification requirements	Yes	
§63.9(b)(1)–(5)	Initial notifications	Yes	Except that §63.9(b)(3) is reserved.

§63.9(c)	Request for compliance extension	Yes	
§63.9(d)	Notification of special compliance requirements for new sources	Yes	
§63.9(e)	Notification of performance test	Yes	
§63.9(f)	Notification of visible emission (VE)/opacity test	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.9(g)(1)	Notification of performance evaluation	Yes	
§63.9(g)(2)	Notification of use of COMS data	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.9(g)(3)	Notification that criterion for alternative to RATA is exceeded	Yes	If alternative is in use.
§63.9(h)(1)–(6)	Notification of compliance status	Yes	Except that notifications for sources using a CEMS are due 30 days after completion of performance evaluations. §63.9(h)(4) is reserved.
§63.9(i)	Adjustment of submittal deadlines	Yes	
§63.9(j)	Change in previous information	Yes	
§63.10(a)	Administrative provisions for record keeping/reporting	Yes	
§63.10(b)(1)	Record retention	Yes	
§63.10(b)(2)(i)–(v)	Records related to SSM	Yes	
§63.10(b)(2)(vi)–(xi)	Records	Yes	
§63.10(b)(2)(xii)	Record when under waiver	Yes	
§63.10(b)(2)(xiii)	Records when using alternative to RATA	Yes	For CO standard if using RATA alternative.
§63.10(b)(2)(xiv)	Records of supporting documentation	Yes	
§63.10(b)(3)	Records of applicability	Yes	

	determination		
§63.10(c)	Additional records for sources using CEMS	Yes	Except that §63.10(c)(2)–(4) and (9) are reserved.
§63.10(d)(1)	General reporting requirements	Yes	
§63.10(d)(2)	Report of performance test results	Yes	
§63.10(d)(3)	Reporting opacity or VE observations	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.10(d)(4)	Progress reports	Yes	
§63.10(d)(5)	Startup, shutdown, and malfunction reports	Yes	
§63.10(e)(1) and (2)(i)	Additional CMS reports	Yes	
§63.10(e)(2)(ii)	COMS-related report	No	Subpart ZZZZ does not require COMS.
§63.10(e)(3)	Excess emission and parameter exceedances reports	Yes	Except that §63.10(e)(3)(i)(C) is reserved.
§63.10(e)(4)	Reporting COMS data	No	Subpart ZZZZ does not require COMS.
§63.10(f)	Waiver for recordkeeping/reporting	Yes	
§63.11	Flares	No	
§63.12	State authority and delegations	Yes	
§63.13	Addresses	Yes	
§63.14	Incorporation by reference	Yes	
§63.15	Availability of information	Yes	

## **Amendment from March 03, 2010**

### **40 CFR--PART 63.6590**

## **Amendment(s) published March 3, 2010, in 75 FR 9674**

Effective Date(s): May 3, 2010

2. Section 63.6590 is amended by revising paragraphs (b)(1) and (3) to read as follows:

### **§ 63.6590 What parts of my plant does this subpart cover?**

(b) \* \* \*

(1) An affected source which meets either of the criteria in paragraph (b)(1)(i) through (ii) of this section does not have to meet the requirements of this subpart and of subpart A of this part except for the initial notification requirements of §63.6645(f).

(3) A stationary RICE which is an existing spark ignition 4 stroke rich burn (4SRB) stationary RICE located at an area source of HAP emissions; an existing spark ignition 4SRB stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions; 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 emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions; an existing spark ignition emergency or limited use stationary RICE; an existing limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions; 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; or an existing stationary residential, commercial, or institutional emergency stationary RICE located at an area source of HAP emissions, does not have to meet the requirements of this subpart and of subpart A of this part. No initial notification is necessary.

**This copy was printed April 13, 2010.**

## ATTACHMENT C

### Subpart WWWW—National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Plating and Polishing Operations

**Source:** 73 FR 37741, July 1, 2008, unless otherwise noted.

#### Applicability and Compliance Dates

#### § 63.11504 Am I subject to this subpart?

(a) You are subject to this subpart if you own or operate a plating and polishing facility that is an area source of hazardous air pollutant (HAP) emissions and meets the criteria specified in paragraphs (a)(1) through (3) of this section.

(1) A plating and polishing facility is a plant site that is engaged in one or more of the processes listed in paragraphs (a)(1)(i) through (vi) of this section.

(i) Electroplating other than chromium electroplating (i.e., non-chromium electroplating).

(ii) Electroless or non-electrolytic plating.

(iii) Other non-electrolytic metal coating processes, such as chromate conversion coating, nickel acetate sealing, sodium dichromate sealing, and manganese phosphate coating; and thermal spraying.

(iv) Dry mechanical polishing of finished metals and formed products after plating.

(v) Electroforming.

(vi) Electropolishing.

(2) An area source of HAP emissions is any stationary source or group of stationary sources within a contiguous area under common control that does not have the potential to emit any single HAP at a rate of 9.07 megagrams per year (Mg/yr) (10 tons per year (tpy)) or more and any combination of HAP at a rate of 22.68 Mg/yr (25 tpy) or more.

(3) Your plating and polishing facility uses or has emissions of compounds of one or more plating and polishing metal HAP, which means any compound of any of the following metals: cadmium, chromium, lead, manganese, and nickel, as defined in §63.11511, "What definitions apply to this subpart?" With the exception of lead, plating and polishing metal HAP also include any of these metals in the elemental form.

(b) [Reserved]

#### § 63.11505 What parts of my plant does this subpart cover?

(a) This subpart applies to each new or existing affected source, as specified in paragraphs (a)(1) through (3) of this section, at all times. A new source is defined in §63.11511, "What definitions apply to this subpart?"

(1) Each tank that contains one or more of the plating and polishing metal HAP, as defined in §63.11511, "What definitions apply to this subpart?", and is used for non-chromium electroplating; electroforming; electropolishing; electroless plating or other non-electrolytic metal coating operations, such as chromate conversion coating, nickel acetate sealing, sodium dichromate sealing, and manganese phosphate coating.

(2) Each thermal spraying operation that applies one or more of the plating and polishing metal HAP, as defined in §63.11511, "What definitions apply to this subpart?"

(3) Each dry mechanical polishing operation that emits one or more of the plating and polishing metal HAP, as defined in §63.11511, "What definitions apply to this subpart?"

(b) An affected source is existing if you commenced construction or reconstruction of the affected source on or before March 14, 2008.

(c) An affected source is new if you commenced construction or reconstruction of the affected source after March 14, 2008.

(d) This subpart does not apply to any of the process units or operations described in paragraphs (d)(1) through (6) of this section.

- (1) Process units that are subject to the requirements of 40 CFR part 63, subpart N (National Emission Standards for Chromium Emissions from Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks).
  - (2) Research and development process units, as defined in §63.11511, "What definitions apply to this subpart?"
  - (3) Process units that are used strictly for educational purposes.
  - (4) Thermal spraying conducted to repair surfaces.
  - (5) Dry mechanical polishing conducted to restore the original finish to a surface to apply to restoring the original finish.
  - (6) Any plating or polishing process that does not use any material that contains cadmium, chromium, lead, or nickel in amounts of 0.1 percent or more by weight, or that contains manganese in amounts of 1.0 percent or more by weight, as reported on the Material Safety Data Sheet for the material.
- (e) You are exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, "Title V," provided you are not otherwise required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart applicable to area sources.

### **§ 63.11506 What are my compliance dates?**

- (a) If you own or operate an existing affected source, you must achieve compliance with the applicable provisions of this subpart no later than July 1, 2010.
- (b) If you own or operate a new affected source for which the initial startup date is on or before July 1, 2008, you must achieve compliance with the provisions of this subpart no later than July 1, 2008.
- (c) If you own or operate a new affected source for which the initial startup date is after July 1, 2008, you must achieve compliance with the provisions of this subpart upon initial startup of your affected source.

## **Standards and Compliance Requirements**

### **§ 63.11507 What are my standards and management practices?**

- (a) If you own or operate an affected new or existing non-cyanide electroplating, electroforming, or electropolishing tank (hereafter referred to as an "electrolytic" process tank, as defined in §63.11511, "What definitions apply to this subpart?") that contains one or more of the plating and polishing metal HAP and operates at a pH of less than 12, you must comply with the requirements in paragraph (a)(1), (2), or (3) of this section, and implement the applicable management practices in paragraph (g) of this section, as practicable.
- (1) You must use a wetting agent/fume suppressant, as defined in §63.11511, "What definitions apply to this subpart?", in the bath of the affected tank according to paragraphs (a)(1)(i) through (iii) of this section.
    - (i) You must initially add the wetting agent/fume suppressant in the amounts recommended by the manufacturer for the specific type of electrolytic process.
    - (ii) You must add wetting agent/fume suppressant in proportion to the other bath chemistry ingredients that are added to replenish the tank bath, as in the original make-up of the tank.
    - (iii) If a wetting agent/fume suppressant is included in the electrolytic process bath chemicals used in the affected tank according to the manufacturer's instructions, it is not necessary to add additional wetting agent/fume suppressants to the tank to comply with this rule.
  - (2) You must capture and exhaust emissions from the affected tank to any one of the following emission control devices: composite mesh pad, packed bed scrubber, or mesh pad mist eliminator, according to paragraphs (a)(2)(i) and (ii) of this section.
    - (i) You must operate all capture and control devices according to the manufacturer's specifications and operating instructions.
    - (ii) You must keep the manufacturer's specifications and operating instructions at the facility at all times in a location where they can be easily accessed by the operators.
  - (3) You must cover the tank surface according to paragraph (a)(3)(i) or (ii) of this section.
    - (i) For batch electrolytic process tanks, as defined in §63.11511, "What definitions apply to this subpart?", you must use a tank cover, as defined in §63.11511, over all of the effective surface area of the tank for at least 95 percent of the electrolytic process operating time.

(ii) For continuous electrolytic process tanks, as defined in §63.11511, "What definitions apply to this subpart?", you must cover at least 75 percent of the surface of the tank, as defined in §63.11511, whenever the electrolytic process tank is in operation.

(b) If you own or operate an affected new or existing "flash" or short-term electroplating tank, as defined in §63.11511, "What definitions apply to this subpart?", that uses or emits one or more of the plating and polishing metal HAP, you must comply with the requirements specified in paragraph (b)(1) or (b)(2), and implement the applicable management practices in paragraph (g) of this section, as practicable.

(1) You must limit short-term or "flash" electroplating to no more than 1 cumulative hour per day or 3 cumulative minutes per hour of plating time.

(2) You must use a tank cover, as defined in §63.11511, "What definitions apply to this subpart?", for at least 95 percent of the plating time.

(c) If you own or operate an affected new or existing process tank that is used both for short-term electroplating and for electrolytic processing of longer duration (i.e., processing that does not meet the definition of short-term or flash electroplating) and contains one or more of the plating and polishing metal HAP, you must meet the requirements specified in paragraph (a) or (b) of this section, whichever apply to the process operation, and implement the applicable management practices in paragraph (g) of this section, as practicable.

(d) If you own or operate an affected new or existing electroplating tank that uses cyanide in the plating bath, operates at pH greater than or equal to 12, and contains one or more of the plating and polishing metal HAP, you must comply with the requirements in paragraphs (d)(1) and (2) of this section:

(1) You must measure and record the pH of the tank upon start-up. No additional pH measurements are required.

(2) You must implement the applicable management practices in paragraph (g) of this section, as practicable.

(e) If you own or operate an affected new or existing dry mechanical polishing equipment that emits one or more of the plating and polishing metal HAP, you must operate a capture system that captures particulate matter (PM) emissions from the dry mechanical polishing process and transports the emissions to a cartridge, fabric, or high efficiency particulate air (HEPA) filter, according to paragraphs (e)(1) and (2) of this section.

(1) You must operate all capture and control devices according to the manufacturer's specifications and operating instructions.

(2) You must keep the manufacturer's specifications and operating instructions at the facility at all times in a location where they can be easily accessed by the operators.

(f) If you own or operate an affected thermal spraying operation that applies one or more of the plating and polishing metal HAP, you must meet the applicable requirements specified in paragraphs (f)(1) through (3) of this section, and the applicable management practices in paragraph (g) of this section.

(1) For existing permanent thermal spraying operations, you must operate a capture system that collects PM emissions from the thermal spraying process and transports the emissions to a water curtain, fabric filter, or HEPA filter, according to paragraphs (f)(1)(i) and (ii) of this section.

(i) You must operate all capture and control devices according to the manufacturer's specifications and instructions.

(ii) You must keep the manufacturer's operating instructions at the facility at all times in a location where they can be easily accessed by the operators.

(2) For new permanent thermal spraying operations, you must operate a capture system that collects PM emissions from the thermal spraying process and transports the emissions to a fabric or HEPA filter, according to paragraphs (f)(2)(i) and (ii) of this section.

(i) You must operate all capture and control devices according to the manufacturer's specifications and instructions.

(ii) You must keep the manufacturer's operating instructions at the facility at all times in a location where they can be easily accessed by the operators.

(3) For temporary thermal spraying operations, as defined in §63.11511 "What definitions apply to this subpart?", you must meet the applicable requirements specified in paragraphs (f)(3)(i) and (ii) of this section.

(i) You must document the amount of time the thermal spraying occurs each day, and where it is conducted.

(ii) You must implement the applicable management practices specified in paragraph (g) of this section, as practicable.

(g) If you own or operate an affected new or existing plating and polishing process unit that contains, applies, or emits one or more of the plating and polishing metal HAP, you must implement the applicable management practices in paragraphs (g)(1) through (12) of this section, as practicable.

(1) Minimize bath agitation when removing any parts processed in the tank, as practicable except when necessary to meet part quality requirements.

- (2) Maximize the draining of bath solution back into the tank, as practicable, by extending drip time when removing parts from the tank; using drain boards (also known as drip shields); or withdrawing parts slowly from the tank, as practicable.
- (3) Optimize the design of barrels, racks, and parts to minimize dragout of bath solution (such as by using slotted barrels and tilted racks, or by designing parts with flow-through holes to allow the tank solution to drip back into the tank), as practicable.
- (4) Use tank covers, if already owned and available at the facility, whenever practicable.
- (5) Minimize or reduce heating of process tanks, as practicable (e.g., when doing so would not interrupt production or adversely affect part quality).
- (6) Perform regular repair, maintenance, and preventive maintenance of racks, barrels, and other equipment associated with affected sources, as practicable.
- (7) Minimize bath contamination, such as through the prevention or quick recovery of dropped parts, use of distilled/de-ionized water, water filtration, pre-cleaning of parts to be plated, and thorough rinsing of pre-treated parts to be plated, as practicable.
- (8) Maintain quality control of chemicals, and chemical and other bath ingredient concentrations in the tanks, as practicable.
- (9) Perform general good housekeeping, such as regular sweeping or vacuuming, if needed, and periodic washdowns, as practicable.
- (10) Minimize spills and overflow of tanks, as practicable.
- (11) Use squeegee rolls in continuous or reel-to-reel plating tanks, as practicable.
- (12) Perform regular inspections to identify leaks and other opportunities for pollution prevention.

### **§ 63.11508 What are my compliance requirements?**

- (a) If you own or operate an affected source, you must submit a Notification of Compliance Status in accordance with §63.11509(b) of "What are my notification, reporting, and recordkeeping requirements?"
- (b) You must be in compliance with the applicable management practices and equipment standards in this subpart at all times.
- (c) To demonstrate initial compliance, you must satisfy the requirements specified in paragraphs (c)(1) through (11) of this section.
  - (1) If you own or operate an affected electroplating, electroforming, or electropolishing tank that contains one or more of the plating and polishing metal HAP and is subject to the requirements in §63.11507(a), "What are my standards and management practices?", and you use a wetting agent/fume suppressant to comply with this subpart, you must demonstrate initial compliance according to paragraphs (c)(1)(i) through (iv) of this section.
    - (i) You must add wetting agent/fume suppressant to the bath of each affected tank according to manufacturer's specifications and instructions.
    - (ii) You must state in your Notification of Compliance Status that you add wetting agent/fume suppressant to the bath according to manufacturer's specifications and instructions.
    - (iii) You must implement the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.
    - (iv) You must state in your Notification of Compliance Status that you have implemented the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.
  - (2) If you own or operate an affected electroplating, electroforming, or electropolishing tank that contains one or more of the plating and polishing metal HAP and is subject to the requirements in §63.11507(a), "What are my standards and management practices?", and you use a control system, as defined in §63.11511, "What definitions apply to this subpart?", to comply with this subpart, you must demonstrate initial compliance according to paragraphs (c)(2)(i) through (v) of this section.
    - (i) You must install a control system designed to capture emissions from the affected tank and exhaust them to a composite mesh pad, packed bed scrubber, or mesh pad mist eliminator.
    - (ii) You must state in your Notification of Compliance Status that you have installed the control system according to the manufacturer's specifications and instructions.

(iii) You must implement the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.

(iv) You must state in your Notification of Compliance Status that you have implemented the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.

(v) You must follow the manufacturer's specifications and operating instructions for the control systems at all times.

(3) If you own or operate an affected batch electrolytic process tank, as defined in §63.11511, "What definitions apply to this subpart?", that contains one or more of the plating and polishing metal HAP and which is subject to the requirements in §63.11507(a), "What are my standards and management practices?", and you use a tank cover, as defined in §63.11511, to comply with this subpart, you must demonstrate initial compliance according to paragraphs (c)(3)(i) through (iv) of this section.

(i) You must install a tank cover on the affected tank.

(ii) You must state in your Notification of Compliance Status that you operate the tank with the cover in place at least 95 percent of the electrolytic process operating time.

(iii) You must implement the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.

(iv) You must state in your Notification of Compliance Status that you have implemented the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.

(4) If you own or operate an affected continuous electrolytic process tank, as defined in §63.11511, "What definitions apply to this subpart?", that contains one or more of the plating and polishing metal HAP and is subject to the requirements in §63.11507(a), "What are my standards and management practices?", and you cover the tank surface to comply with this subpart, you must demonstrate initial compliance according to paragraphs (c)(4)(i) through (iv) of this section.

(i) You must cover at least 75 percent of the surface area of the affected tank.

(ii) You must state in your Notification of Compliance Status that you operate the tank with the surface cover in place whenever the continuous electrolytic process is in operation.

(iii) You must implement the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.

(iv) You must state in your Notification of Compliance Status that you have implemented the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.

(5) If you own or operate an affected flash or short-term electroplating tank that contains one or more of the plating and polishing metal HAP and is subject to the requirements in §63.11507(b), "What are my standards and management practices?", and you comply with this subpart by limiting the plating time of the affected tank, you must demonstrate initial compliance according to paragraphs (c)(5)(i) through (iii) of this section.

(i) You must state in your Notification of Compliance Status that you limit short-term or flash electroplating to no more than 1 cumulative hour per day, or 3 cumulative minutes per hour of plating time.

(ii) You must implement the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.

(iii) You must state in your Notification of Compliance Status that you have implemented the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.

(6) If you own or operate an affected flash or short-term electroplating tank that contains one or more of the plating and polishing metal HAP and is subject to the requirements in §63.11507(b), "What are my standards and management practices?", and you comply by operating the affected tank with a cover, you must demonstrate initial compliance according to paragraphs (c)(6)(i) through (iv) of this section.

(i) You must install a tank cover on the affected tank.

(ii) You must state in your Notification of Compliance Status that you operate the tank with the cover in place at least 95 percent of the plating time.

(iii) You must implement the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.

(iv) You must state in your Notification of Compliance Status that you have implemented the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.

(7) If you own or operate an affected tank that contains one or more of the plating and polishing metal HAP, uses cyanide in the bath, and is subject to the management practices specified in §63.11507(d), "What are my standards and management practices?", you must demonstrate initial compliance according to paragraphs (c)(7)(i) through (iii) of this section.

(i) You must report in your Notification of Compliance Status the pH of the bath solution that was measured at start-up, according to the requirements of §63.11507(d)(1).

(ii) You must implement the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.

(iii) You must state in your Notification of Compliance Status that you have implemented the applicable management practices specified in §63.11490(g), "What are my standards and management practices?", as practicable.

(8) If you own or operate an affected dry mechanical polishing operation that emits one or more of the plating and polishing metal HAP and is subject to the requirements in §63.11507(e), "What are my standards and management practices?", you must demonstrate initial compliance according to paragraphs (c)(8)(i) through (iii) of this section.

(i) You must install a control system that is designed to capture PM emissions from the polishing operation and exhaust them to a cartridge, fabric, or HEPA filter.

(ii) You must state in your Notification of Compliance Status that you have installed the control system according to the manufacturer's specifications and instructions.

(iii) You must keep the manufacturer's operating instructions at the facility at all times in a location where they can be easily accessed by the operators.

(9) If you own or operate an existing affected permanent thermal spraying operation that applies one or more of the plating and polishing metal HAP and is subject to the requirements in §63.11507(f)(1), "What are my standards and management practices?", you must demonstrate initial compliance according to paragraphs (c)(9)(i) through (iii) of this section.

(i) You must install a control system that is designed to capture PM emissions from the thermal spraying operation and exhaust them to a water curtain, fabric filter, or HEPA filter.

(ii) You must state in your Notification of Compliance Status that you have installed and are operating the control system according to the manufacturer's specifications and instructions.

(iii) You must keep the manufacturer's operating instructions at the facility at all times in a location where they can be easily accessed by the operators.

(10) If you own or operate a new affected permanent thermal spraying operation that applies one or more of the plating and polishing metal HAP and is subject to the requirements in §63.11507(f)(2), "What are my standards and management practices?", you must demonstrate initial compliance according to paragraphs (c)(10)(i) through (iii) of this section.

(i) You must install and operate a control system that is designed to capture PM emissions from the thermal spraying operation and exhaust them to a fabric or HEPA filter.

(ii) You must state in your Notification of Compliance Status that you have installed and operate the control system according to the manufacturer's specifications and instructions.

(iii) You must keep the manufacturer's operating instructions at the facility at all times in a location where they can be easily accessed by the operators.

(11) If you own or operate an affected temporary thermal spraying operation that applies one or more of the plating and polishing metal HAP and is subject to the requirements in §63.11507(f)(3), "What are my standards and management practices?", you must demonstrate initial compliance according to paragraphs (c)(11)(i) and (ii) of this section.

(i) You must implement the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.

(ii) You must state in your Notification of Compliance Status that you have implemented the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.

(d) To demonstrate continuous compliance with the applicable management practices and equipment standards specified in this subpart, you must satisfy the requirements specified in paragraphs (d)(1) through (8) of this section.

- (1) You must always operate and maintain your affected source, including air pollution control equipment.
- (2) You must prepare an annual compliance certification according to the requirements specified in §63.11509(c), "Notification, Reporting, and Recordkeeping," and keep it in a readily-accessible location for inspector review.
- (3) If you own or operate an affected electroplating, electroforming, or electropolishing tank that contains one or more of the plating and polishing metal HAP and is subject to the requirements in §63.11507(a), "What are my standards and management practices?", and you use a wetting agent/fume suppressant to comply with this subpart, you must demonstrate continuous compliance according to paragraphs (d)(3)(i) through (iii) of this section.
  - (i) You must record that you have added the wetting agent/fume suppressant to the tank bath in the original make-up of the tank.
  - (ii) For tanks where the wetting agent/fume suppressant is a separate purchased ingredient from the other tank additives, you must demonstrate continuous compliance according to paragraphs (d)(3)(ii) (A) and (B) this section.
    - (A) You must add wetting agent/fume suppressant in proportion to the other bath chemistry ingredients that are added to replenish the tank bath, as in the original make-up of the tank.
    - (B) You must record each addition of wetting agent/fume suppressant to the tank bath.
  - (iii) You must state in your annual compliance certification that you have added wetting agent/fume suppressant to the bath according to the manufacturer's specifications and instructions.
- (4) If you own or operate an affected electroplating, electroforming, or electropolishing tank that contains one or more of the plating and polishing metal HAP and is subject to the requirements in §63.11507(a), "What are my standards and management practices?", and you use a control system to comply with this subpart; an affected dry mechanical polishing operation that is subject to §63.11507(e); or an affected thermal spraying operation that is subject to §63.11507(f)(1) or (2), you must demonstrate continuous compliance according to paragraphs (d)(4)(i) through (v) of this section.
  - (i) You must operate and maintain the control system according to the manufacturer's specifications and instructions.
  - (ii) Following any malfunction or failure of the capture or control devices to operate properly, you must take immediate corrective action to return the equipment to normal operation according to the manufacturer's specifications and operating instructions.
  - (iii) You must state in your annual certification that you have operated and maintained the control system according to the manufacturer's specifications and instructions.
  - (iv) You must record the results of all control system inspections, deviations from proper operation, and any corrective action taken.
  - (v) You must keep the manufacturer's operating instructions at the facility at all times in a location where they can be easily accessed by the operators.
- (5) If you own or operate an affected flash or short-term electroplating tank that contains one or more of the plating and polishing metal HAP and is subject to the requirements in §63.11507(b), "What are my standards and management practices?", and you comply with this subpart by limiting the plating time for the affected tank, you must demonstrate continuous compliance according to paragraphs (d)(5)(i) through (iii) of this section.
  - (i) You must limit short-term or flash electroplating to no more than 1 cumulative hour per day or 3 cumulative minutes per hour of plating time.
  - (ii) You must record the times that the affected tank is operated each day.
  - (iii) You must state in your annual compliance certification that you have limited short-term or flash electroplating to no more than 1 cumulative hour per day or 3 cumulative minutes per hour of plating time.
- (6) If you own or operate an affected batch electrolytic process tank that contains one or more of the plating and polishing metal HAP and is subject to the requirements of §63.11507(a), "What are my standards and management practices?", or a flash or short-term electroplating tank that contains one or more of the plating and polishing metal HAP and is subject to the requirements in §63.11507(b), and you comply by operating the affected tank with a cover, you must demonstrate continuous compliance according to paragraphs (d)(6)(i) through (iii) of this section.
  - (i) You must operate the tank with the cover in place at least 95 percent of the electrolytic process operating time.
  - (ii) You must record the times that the tank is operated and the times that the tank is covered on a daily basis.
  - (iii) You must state in your annual certification that you have operated the tank with the cover in place at least 95 percent of the electrolytic process time.

(7) If you own or operate an affected continuous electrolytic process tank that contains one or more of the plating and polishing metal HAP and is subject to the requirements in §63.11507(a), "What are my standards and management practices?", and you cover your tanks to comply with this subpart, you must demonstrate continuous compliance according to paragraphs (d)(7)(i) and (ii) of this section.

(i) You must operate the tank with at least 75 percent of the surface covered during all periods of electrolytic process operation.

(ii) You must state in your annual certification that you have operated the tank with 75 percent of the surface covered during all periods of electrolytic process operation.

(8) If you own or operate an affected tank or other operation that is subject to the management practices specified in §63.11507(g), "What are my standards and management practices?", you must demonstrate continuous compliance according to paragraphs (d)(8)(i) and (ii) of this section.

(i) You must implement the applicable management practices during all times that the affected tank or process is in operation.

(ii) You must state in your annual compliance certification that you have implemented the applicable management practices, as practicable.

### **§ 63.11509 What are my notification, reporting, and recordkeeping requirements?**

(a) If you own or operate an affected source, as defined in §63.11505(a), "What parts of my plant does this subpart cover?", you must submit an Initial Notification in accordance with paragraphs (a)(1) through (4) of this section by the dates specified.

(1) The Initial Notification must include the information specified in §63.9(b)(2)(i) through (iv) of the General Provisions of this part.

(2) The Initial Notification must include a description of the compliance method (e.g., use of wetting agent/fume suppressant) for each affected source.

(3) If you start up your affected source on or before July 1, 2008, you must submit an Initial Notification not later than 120 calendar days after July 1, 2008.

(4) If you start up your new affected source after July 1, 2008, you must submit an Initial Notification not later than 120 calendar days after you become subject to this subpart.

(b) If you own or operate an affected source, you must submit a Notification of Compliance Status in accordance with paragraphs (b)(1) and (2) of this section.

(1) The Notification of Compliance Status must be submitted before the close of business on the compliance date specified in §63.11506, "What are my compliance dates?"

(2) The Notification of Compliance Status must include the items specified in paragraphs (b)(2)(i) through (iv) of this section.

(i) List of affected sources and the plating and polishing metal HAP used in, or emitted by, those sources.

(ii) Methods used to comply with the applicable management practices and equipment standards.

(iii) Description of the capture and emission control systems used to comply with the applicable equipment standards.

(iv) Statement by the owner or operator of the affected source as to whether the source is in compliance with the applicable standards or other requirements.

(c) If you own or operate an affected source, you must prepare an annual certification of compliance report according to paragraphs (c)(1) through (7) of this section. These reports do not need to be submitted unless a deviation from the requirements of this subpart has occurred during the reporting year, in which case, the annual compliance report must be submitted along with the deviation report.

(1) If you own or operate an affected electroplating, electroforming, or electropolishing tank that is subject to the requirements in §63.11507(a)(1), "What are my standards and management practices?", you must state in your annual compliance certification that you have added wetting agent/fume suppressant to the bath according to the manufacturer's specifications and instructions.

(2) If you own or operate any one of the affected sources listed in paragraphs (c)(2)(i) through (iii) of this section, you must state in your annual certification that you have operated and maintained the control system according to the manufacturer's specifications and instructions.

(i) Electroplating, electroforming, or electropolishing tank that is subject to the requirements in §63.11507(a), "What are my standards and management practices?", and you use a control system to comply with this subpart;

(ii) Dry mechanical polishing operation that is subject to §63.11507(e); or

(iii) Permanent thermal spraying operation that is subject to §63.11507(f)(1) or (2).

(3) If you own or operate an affected flash or short-term electroplating tank that is subject to the requirements in §63.11507(b), "What are my standards and management practices?", and you comply with this subpart by limiting the plating time of the affected tank, you must state in your annual compliance certification that you have limited short-term or flash electroplating to no more than 1 cumulative hour per day or 3 cumulative minutes per hour of plating time.

(4) If you own or operate an affected batch electrolytic process tank that is subject to the requirements of §63.11507(a) or a flash or short-term electroplating tank that is subject to the requirements in §63.11507(b), "What are my standards and management practices?", and you comply by operating the affected tank with a cover, you must state in your annual certification that you have operated the tank with the cover in place at least 95 percent of the electrolytic process time.

(5) If you own or operate an affected continuous electrolytic process tank that is subject to the requirements of §63.11507(a), "What are my standards and management practices?", and you comply by operating the affected tank with a cover, you must state in your annual certification that you have covered at least 75 percent of the surface area of the tank during all periods of electrolytic process operation.

(6) If you own or operate an affected tank that is subject to the management practices specified in §63.11507(g), "What are my standards and management practices?", you must state in your annual compliance certification that you have implemented the applicable management practices, as practicable.

(7) Each annual compliance report must be prepared no later than January 31 of the year immediately following the reporting period and kept in a readily-accessible location for inspector review. If a deviation has occurred during the year, each annual compliance report must be submitted along with the deviation report, and postmarked or delivered no later than January 31 of the year immediately following the reporting period.

(d) If you own or operate an affected source, and any deviations from the compliance requirements specified in this subpart occurred during the year, you must report the deviations, along with the corrective action taken, and submit this report to the delegated authority.

(e) You must keep the records specified in paragraphs (e)(1) through (3) of this section.

(1) A copy of any Initial Notification and Notification of Compliance Status that you submitted and all documentation supporting those notifications.

(2) The records specified in §63.10(b)(2)(i) through (iii) and (xiv) of the General Provisions of this part.

(3) The records required to show continuous compliance with each management practice and equipment standard that applies to you, as specified in §63.11508(d), "What are my compliance requirements?"

(f) You must keep each record for a minimum of 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. You must keep each record onsite for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1) of the General Provisions to part 63. You may keep the records offsite for the remaining 3 years.

## Other Requirements and Information

### § 63.11510 What General Provisions apply to this subpart?

If you own or operate a new or existing affected source, you must comply with the requirements of the General Provisions (40 CFR part 63, subpart A) according to Table 1 of this subpart.

### § 63.11511 What definitions apply to this subpart?

Terms used in this subpart are defined in this section.

*Batch electrolytic process tank* means a tank used for an electrolytic process in which a part or group of parts, typically mounted on racks or placed in barrels, is placed in the tank and immersed in an electrolytic process solution as a single unit (i.e., as a batch) for a predetermined period of time, during which none of the parts are removed from the tank and no other parts are added to the tank, and after which the part or parts are removed from the tank as a unit.

*Bath* means the liquid contents of a tank that is used for electroplating, electroforming, electropolishing, or other metal coating processes at a plating and polishing facility.

*Capture system* means the collection of components used to capture gases and fumes released from one or more emissions points and then convey the captured gas stream to a control device, as part of a complete control system. A capture system may include, but is not limited to, the following

components as applicable to a given capture system design: duct intake devices, hoods, enclosures, ductwork, dampers, manifolds, plenums, and fans.

*Cartridge filter* means a type of control device that uses perforated metal cartridges containing a pleated paper or non-woven fibrous filter media to remove PM from a gas stream by sieving and other mechanisms. Cartridge filters can be designed with single use cartridges, which are removed and disposed after reaching capacity, or continuous use cartridges, which typically are cleaned by means of a pulse-jet mechanism.

*Composite mesh pad* means a type of control device similar to a mesh pad mist eliminator except that the device is designed with multiple pads in series that are woven with layers of material with varying fiber diameters, which produce a coalescing effect on the droplets or PM that impinge upon the pads.

*Continuous electrolytic process tank* means a tank that uses an electrolytic process and in which a continuous metal strip or other type of continuous substrate is fed into and removed from the tank continuously. This process is also called reel-to-reel electrolytic plating.

*Control device* means equipment that is part of a control system that collects and/or reduces the quantity of a pollutant that is emitted to the air. The control device receives emissions that are transported from the process by the capture system.

*Control system* means the combination of a capture system and a control device. The capture system is designed to collect and transport air emissions from the affected source to the control device. The overall control efficiency of any control system is a combination of the ability of the system to capture the air emissions (i.e., the capture efficiency) and the control device efficiency. Consequently, it is important to achieve good capture to ensure good overall control efficiency. Capture devices that are known to provide high capture efficiencies include hoods, enclosures, or any other duct intake devices with ductwork, dampers, manifolds, plenums, or fans.

*Cyanide plating* means plating processes performed in tanks that use cyanide as a major bath ingredient and that operate at pH of 12 or more, and use or emit any of the plating and polishing metal HAP, as defined in this section. Electroplating and electroforming are performed with or without cyanide. The cyanide in the bath works to dissolve the HAP metal added as a cyanide compound (e.g., cadmium cyanide) and creates free cyanide in solution, which helps to corrode the anode. These tanks are self-regulating to a pH of 12 due to the caustic nature of the cyanide bath chemistry. The cyanide in the bath is a major bath constituent and not an additive; however, the self-regulating chemistry of the bath causes the bath to act as if wetting agents/fume suppressants are being used and to ensure an optimum plating process. All cyanide plating baths at pH greater than or equal to 12 have cyanide-metal complexes in solution. The metal HAP to be plated is not emitted because it is either bound in the metal-cyanide complex or reduced at the cathode to elemental metal, and plated onto the immersed parts. Cyanide baths are not intentionally operated at pH less 12 since unfavorable plating conditions would occur in the tank, among other negative effects.

*Deviation* means any instance in which an affected source or an owner or operator of such an affected source:

- (1) Fails to meet any requirement or obligation established by this rule including, but not limited to, any equipment standard (including emissions and operating limits), management practice, or operation and maintenance requirement;
- (2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this rule and that is included in the operating permit for any affected facility required to obtain such a permit; or
- (3) Fails to meet any equipment standard (including emission and operating limits), management standard, or operation and maintenance requirement in this rule during startup, shutdown, or malfunction.

*Dry mechanical polishing* means a process used for removing defects from and smoothing the surface of finished metals and formed products after plating with any of the plating and polishing metal HAP, as defined in this section, using hard-faced abrasive wheels or belts and where no liquids or fluids are used to trap the removed metal particles.

*Electroforming* means an electrolytic process using or emitting any of the plating and polishing metal HAP, as defined in this section, that is used for fabricating metal parts. This process is essentially the same as electroplating except that the plated substrate (mandrel) is removed, leaving only the metal plate. In electroforming, the metal plate is self-supporting and generally thicker than in electroplating.

*Electroless plating* means a non-electrolytic process that uses or emits any of the plating and polishing metal HAP, as defined in this section, in which metallic ions in a plating bath or solution are reduced to form a metal coating at the surface of a catalytic substrate without the use of external electrical energy. Electroless plating is also called non-electrolytic plating. Examples include, but are not limited to, chromate conversion coating, nickel acetate sealing, sodium dichromate sealing, and manganese phosphate coating.

*Electrolytic plating processes* means electroplating and electroforming that use or emit any of the plating and polishing metal HAP, as defined in this section, where metallic ions in a plating bath or solution are reduced to form a metal coating on the surface of parts and products using electrical energy.

*Electroplating* means an electrolytic process that uses or emits any of the plating and polishing metal HAP, as defined in this section, in which metal ions in solution are reduced onto the surface of the work piece (the cathode) via an electrical current. The metal ions in the solution are usually replenished by the dissolution of metal from solid metal anodes fabricated of the same metal being plated, or by direct replenishment of the solution with metal salts or oxides; electroplating is also called electrolytic plating.

*Electropolishing* means an electrolytic process that uses or emits any of the plating and polishing metal HAP, as defined in this section, in which a work piece is attached to an anode immersed in a bath, and the metal substrate is dissolved electrolytically, thereby removing the surface contaminant; electropolishing is also called electrolytic polishing.

*Fabric filter* means a type of control device used for collecting PM by filtering a process exhaust stream through a filter or filter media. A fabric filter is also known as a baghouse.

*Flash electroplating* means an electrolytic process that uses or emits any of the plating and polishing metal HAP, as defined in this section, and that is used no more than 3 cumulative minutes per hour or no more than 1 cumulative hour per day.

*General Provisions of this part (40 CFR part 63, subpart A)* means the section of the Code of Federal Regulations (CFR) that addresses air pollution rules that apply to all HAP sources addressed in part 63, which includes the National Emission Standards for Hazardous Air Pollutants (NESHAP).

*HAP* means hazardous air pollutant as defined from the list of 188 chemicals and compounds specified in the CAA Amendments of 1990; HAP are also called "air toxics." The five plating and polishing metal HAP, as defined in this section, are on this list of 188 chemicals.

*High efficiency particulate air (HEPA) filter* means a type of control device that uses a filter composed of a mat of randomly arranged fibers and is designed to remove at least 99.97 percent of airborne particles that are 0.3 micrometers or larger in diameter.

*Mesh pad mist eliminator* means a type of control device, consisting of layers of interlocked filaments densely packed between two supporting grids that remove liquid droplets and PM from the gas stream through inertial impaction and direct interception.

*Metal coating operation* means any process performed either in a tank that contains liquids or as part of a spraying operation that applies one or more plating and polishing metal HAP, as defined in this section, to parts and products used in manufacturing. These processes include but are not limited to: Non-chromium electroplating; electroforming; electropolishing; other non-electrolytic metal coating processes, such as chromate conversion coating, nickel acetate sealing, sodium dichromate sealing, and manganese phosphate coating; and thermal spraying.

*New source* means any affected source for which you commenced construction or reconstruction after March 14, 2008.

*Non-cyanide electrolytic plating and electropolishing processes* means electroplating, electroforming, and electropolishing that uses or emits any of the plating and polishing metal HAP, as defined in this section, performed without cyanide in the tank. These processes do not use cyanide in the tank and operate at pH values less than 12. These processes use electricity and add or remove metals such as metal HAP from parts and products used in manufacturing. Both electroplating and electroforming can be performed with cyanide as well.

*Non-electrolytic plating* means a process that uses or emits any of the plating and polishing metal HAP, as defined in this section, in which metallic ions in a plating bath or solution are reduced to form a metal coating at the surface of a catalytic substrate without the use of external electrical energy. Non-electrolytic plating is also called electroless plating. Examples include chromate conversion coating, nickel acetate sealing, sodium dichromate sealing, and manganese phosphate coating.

*Packed-bed scrubber* means a type of control device that includes a single or double packed bed that contains packing media on which PM and droplets impinge and are removed from the gas stream. The packed-bed section of the scrubber is followed by a mist eliminator to remove any water entrained from the packed-bed section.

*Plating and polishing facility* means a facility engaged in one or more of the following processes that uses or emits any of the plating and polishing metal HAP, as defined in this section: Electroplating processes other than chromium electroplating (i.e., non-chromium electroplating); electroless plating; other non-electrolytic metal coating processes, such as chromate conversion coating, nickel acetate sealing, sodium dichromate sealing, and manganese phosphate coating; thermal spraying; and the dry mechanical polishing of finished metals and formed products after plating.

*Plating and polishing metal HAP* means any compound of any of the following metals: cadmium, chromium, lead, manganese, and nickel, or any of these metals in the elemental form, with the exception of lead. Any material that does not contain cadmium, chromium, lead, or nickel in amounts greater than or equal to 0.1 percent by weight, and does not contain manganese in amounts greater than or equal to 1.0 percent by weight, as reported on the Material Safety Data Sheet for the material, is not considered to be a plating and polishing metal HAP.

*Plating and polishing process tanks* means any tank in which a process is performed at an affected plating and polishing facility that uses or has the potential to emit any of the plating and polishing metal HAP, as defined in this section. The processes performed in plating and polishing tanks include the following: Electroplating processes other than chromium electroplating (i.e., non-chromium electroplating) performed in a tank; electroless plating; and non-electrolytic metal coating processes, such as chromate conversion coating, nickel acetate sealing, sodium dichromate sealing, and manganese phosphate coating; and electropolishing. This term does not include tanks containing solutions that are used to rinse or wash parts prior to placing the parts in a plating and polishing process tank, or subsequent to removing the parts from a plating and polishing process tank. This term also does not include thermal spraying or dry polishing with machines.

*PM* means solid or particulate matter that is emitted into the air.

*Research and development process unit* means any process unit that is used for conducting research and development for new processes and products and is not used to manufacture products for commercial sale, except in a *de minimis* manner.

*Short-term plating* means an electroplating process that uses or emits any of the plating and polishing metal HAP, as defined in this section, and that is used no more than 3 cumulative minutes per hour or 1 hour cumulative per day.

*Tank cover* for batch process units means a solid structure made of an impervious material that is designed to cover the entire open surface of a tank or process unit that is used for plating or other metal coating processes.

*Tank cover* for continuous process units, means a solid structure or combination of structures, made of an impervious material that is designed to cover at least 75 percent of the open surface of the tank or process unit that is used for continuous plating or other continuous metal coating processes.

*Temporary thermal spraying* means a thermal spraying operation that uses or emits any of the plating and polishing metal HAP, as defined in this section, and that lasts no more than 1 hour in duration during any one day and is conducted in situ. Thermal spraying that is conducted in a dedicated thermal spray booth or structure is not considered to be temporary thermal spraying.

*Thermal spraying* (also referred to as metal spraying or flame spraying) is a process that uses or emits any of the plating and polishing metal HAP, as defined in this section, in which a metallic coating is applied by projecting molten or semi-molten metal particles onto a substrate. Commonly-used thermal spraying methods include high velocity oxy-fuel (HVOF) spraying, flame spraying, electric arc spraying, plasma arc spraying, and detonation gun spraying.

*Water curtain* means a type of control device that draws the exhaust stream through a continuous curtain of moving water to scrub out suspended PM.

*Wetting agent/fume suppressant* means any chemical agent that reduces or suppresses fumes or mists from a plating and polishing tank by reducing the surface tension of the tank bath.

### **§ 63.11512 Who implements and enforces this subpart?**

(a) This subpart can be implemented and enforced by EPA or a delegated authority such as your State, local, or tribal agency. If the EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency, in addition to 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 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are retained by the EPA Administrator and are not transferred to the State, local, or tribal agency.

(c) The authorities that cannot be delegated to State, local, or tribal agencies are specified in paragraphs (c)(1) through (5) of this section.

(1) Approval of an alternative non-opacity emissions standard under 40 CFR 63.6(g), of the General Provisions of this part.

(2) Approval of an alternative opacity emissions standard under §63.6(h)(9), of the General Provisions of this part.

(3) Approval of a major change to test methods under §63.7(e)(2)(ii) and (f), of the General Provisions of this part. A "major change to test method" is defined in §63.90.

(4) Approval of a major change to monitoring under §63.8(f), of the General Provisions of this part. A "major change to monitoring" is defined in §63.90.

(5) Approval of a major change to recordkeeping and reporting under §63.10(f), of the General Provisions of this part. A "major change to recordkeeping/reporting" is defined in §63.90.

### **§ 63.11513 [Reserved]**

## Indiana Department of Environmental Management Office of Air Quality

### Technical Support Document (TSD) for a Minor Permit Revision to a Federally Enforceable State Operating Permit (FESOP)

#### Source Description and Location

<b>Source Name:</b>	<b>Caterpillar Reman Powertrain Indiana, Inc.</b>
<b>Source Location:</b>	<b>751 International Drive, Franklin, Indiana 46131</b>
<b>County:</b>	<b>Johnson</b>
<b>SIC Code:</b>	<b>3519</b>
<b>Operation Permit No.:</b>	<b>F 081-28719-00056</b>
<b>Operation Permit Issuance Date:</b>	<b>May 20, 2010</b>
<b>Minor Permit Revision No.:</b>	<b>081-30269-00056</b>
<b>Permit Reviewer:</b>	<b>Jack Harmon</b>

On February 24, 2011, the Office of Air Quality (OAQ) received an application from Caterpillar Reman Powertrain Indiana, Inc. related to a modification to an existing stationary diesel engine remanufacturing operation to change raw materials and throughput of its existing Flame Spray operation, FS-1, and to apply a rule applicability to that unit. Additional information was received on March 28, 2011 and April 25, 2011.

#### Existing Approvals

The source was issued FESOP Renewal No. 081-28719-00056 on May 20, 2010. There have been no approvals since the issuance of the renewal.

#### County Attainment Status

The source is located in Johnson County.

Pollutant	Designation
SO <sub>2</sub>	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O <sub>3</sub>	Attainment effective October 19, 2007, for the 8-hour ozone standard. <sup>1</sup>
PM <sub>10</sub>	Unclassifiable effective November 15, 1990.
NO <sub>2</sub>	Cannot be classified or better than national standards.
Pb	Not designated.
<sup>1</sup> Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005.  Basic nonattainment designation effective federally April 5, 2005, for PM2.5.	

- (a) **Ozone Standards**  
 Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) 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. Johnson 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.



Process/ Emission Unit	Potential To Emit (tons/year)							
	PM	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs
<p>Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal ten (10) micrometers (PM<sub>10</sub>), not particulate matter (PM), is considered as a "regulated air pollutant". Additionally, US EPA has directed states to regulate PM<sub>10</sub> emissions as surrogate for PM<sub>2.5</sub> emissions.</p> <p>* Pursuant to 326 IAC 2-8, the Permittee will maintain the limit NO<sub>x</sub> emission to below 100 tons per year, by:</p> <p>(a) limiting the input of diesel fuel to the diesel-powered engine test cells (P004) to less than 252,920 gallons per twelve (12) consecutive month period with compliance determined at the end of each month</p> <p>(b) the potential to emit of NO<sub>x</sub> shall not exceed an emission rate factor of 0.47 pounds of NO<sub>x</sub> per gallon of diesel fuel.</p> <p>** The PM values represent the allowable emissions pursuant to 326 IAC 6-3-2. the hourly PM<sub>10</sub> limits have been set equal to the allowable particulate emission rates pursuant to 326 IAC 6-3-2.</p> <p>The PM and PM<sub>10</sub> values represent the unrestricted potential emissions, or, for those units equipped with control equipment, the limited potential to emit as determined under 326 IAC 6-3-2 of the permit.</p> <p>Pursuant to 326 IAC 6-3-2(d)(3), sources that operate according to a valid permit pursuant to 326 IAC 2-7 (Part 70) or 326 IAC 2-8 (FESOP) are exempt from 326 IAC 6-3-2(d)(2).</p> <p>The emission figures in this table are as presented in the documentation for FESOP Renewal No. 081-28719-00056, issued May 20, 2010.</p>								

- (a) This existing stationary source is not major for PSD because the emissions of each criteria pollutant are less than two hundred fifty (<250) tons per year, and it is not one of the twenty-eight (28) listed source categories.
- (b) This existing stationary source is not major under 326 IAC 2-3 (Emission Offset) because the emissions of the nonattainment pollutant, PM<sub>10</sub> is limited to less than one hundred (<100) tons per year.
- (c) 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.

<b>Description of Proposed Revision</b>
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The Office of Air Quality (OAQ) has reviewed an application, submitted by Caterpillar Reman Powertrain Indiana, Inc. related to a modification to an existing stationary diesel engine remanufacturing operation. The source is requesting to change raw materials and throughput of its existing Flame Spray operation, FS-1, and to apply a federal rule to that unit, as follows:

- (a) The Flame Spray unit, identified as FS-1, currently uses two powder coating materials in its operation. The Nickel Aluminum Alloy will remain unchanged in this revision, but the throughput will change from 13,800 engines per year to 43,800 engines per year. The 1010 Steel alloy will be changed to 1080 Steel, and the throughput will increase from 13,800 engines per year to 43,800 engines per year. The new 1080 Steel material contains 1% manganese by weight. There are no other raw material changes for the source associated with this revision. The Flame Spray unit, FS-01, is currently listed in the permit as an Insignificant Activity because its current uncontrolled potential to emit is 6.64 lb PM<sub>10</sub> per day, which is less than the 25 lb PM<sub>10</sub> per day limit pursuant to 326 IAC 2-7-1(21)(B). With the throughput revision, the uncontrolled potential to emit from this unit for PM is 5.80 tons per year, which is 31.78 lb PM<sub>10</sub> per day. Therefore, the proposed revision is to remove unit FS-1 from the Insignificant Activities section and place it in the Permitted Emission Units in the A.2 section of the permit. Also changing is to add a description for the dust collector on this unit.
- (b) The Flame Spray unit, identified as FS-1, is also subject to 40 CFR 63, Subpart WWWW, and is discussed in the Federal Rule Applicability Determination section of this document.

There are no new emissions units requested for this revision, nor are there any unpermitted units.

**Enforcement Issues**

There are no pending enforcement actions related to this revision.

**Emission Calculations**

See Appendix A of this TSD for detailed emission calculations.

**Permit Level Determination – FESOP Revision**

The following table is used to determine the appropriate permit level under 326 IAC 2-8.11.1. This table reflects the PTE before controls of the proposed revision. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Process/ Emission Unit	PTE of Proposed Revision (tons/year)								
	PM	PM10*	PM2.5	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO	Total HAPs	Worst Single HAP
Flame Spray Unit FS-1 - previous throughput and materials	1.21	1.21	1.21	0.00	0.00	0.00	0.00	0.09	0.09 (Nickel)
Flame Spray Unit FS-1 - revised throughput and materials, controlled by dust collector	5.80	5.80	5.80	0.00	0.00	0.00	0.00	0.36	0.31 (Nickel)
Total PTE of Proposed Revision	4.59	4.59	4.59	0.00	0.00	0.00	0.00	0.27	0.22 (Nickel)
* Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant".									

This FESOP is being revised through a FESOP Minor Permit revision pursuant to 326 IAC 2-8-11.1(d)(4) because the revision involves change of potential to emit PM10 of less than 25 tons per year. Therefore, the permit will be revised under a FESOP Minor Permit Revision.

**PTE of the Entire Source After Issuance of the FESOP Revision**

The table below summarizes the potential to emit of the entire source, after issuance of this revision, reflecting the changes requested in this revision, with updated emissions shown as **bold** values and previous emissions shown as ~~strike through~~ values.

Process/ Emission Unit	Potential To Emit After Issuance of the Revision (tons/year)							
	PM	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs
Surface Coating (PB#1)	0.71	0.71	0.00	0.00	10.40	0.00	0.00	2.58
Misc. Plant-wide (P001)	0.00	0.00	0.00	0.00	27.01	0.00	0.00	2.45
Cold Cleaning Degreasers (P002)	0.00	0.00	0.00	0.00	25.96	0.00	0.00	0.048
Natural Gas Heaters and Washers (P003)	0.54	2.17	2.17	0.17	1.57	24.01	28.58	0.54
Engine Test Cells (P004)	5.37	5.37	5.37	5.02	6.24	16.46	59.60*	0.49
Burn-Off Oven w/Afterburner (P005)	4.53	4.53	4.53	0.04	0.33	5.08	6.04	0.00
Abrasive Blasting (P006)**	121.76	41.15	41.15	0.00	0.00	0.00	0.00	0.00
Welding (P007)	0.84	0.84	0.84	0.00	0.00	0.00	0.00	0.00
Parts Washer (P008)	0.00	0.00	0.00	0.00	0.96	0.00	0.00	0.09
Flame Spray Unit #4 FS-1***	<b>0.06</b> <del>1.21</del>	<b>0.06</b> <del>1.21</del>	<b>0.06</b> <del>1.21</del>	0.00	0.00	0.00	0.00	<b>0.004</b> <del>0.09</del>
Emergency Natural Gas Fired Generator #1	0.00	0.00	0.00	0.00	0.01	0.03	0.21	0.001
Total Emissions	<b>133.82</b> <del>133.76</del>	<b>54.84</b> <del>54.78</del>	<b>54.84</b> <del>54.78</del>	5.23	72.47	45.55	94.23	<b>6.204</b> <del>6.20</del>
Title V Major Source Thresholds	NA	100	100	100	100	100	100	10/25
PSD Major Source Thresholds	250	250	NA	250	250	250	250	NA
Emission Offset/ Nonattainment New Source Review/ Major Source Thresholds	NA	NA	100	NA	NA	NA	NA	NA
*PM/PM10 PTE After Control	<p>Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal ten (10) micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". Additionally, US EPA has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions.</p> <p>* Pursuant to 326 IAC 2-8, the Permittee will maintain the limit NOx emission to below 100 tons per year, by:</p> <p>(a) limiting the input of diesel fuel to the diesel-powered engine test cells (P004) to less than 252,920 gallons per twelve (12) consecutive month period with compliance determined at the end of each month</p> <p>(b) the potential to emit of NOx shall not exceed an emission rate factor of 0.47 pounds of NOx per gallon of diesel fuel.</p> <p>** The PM values represent the allowable emissions pursuant to 326 IAC 6-3-2. the hourly PM<sub>10</sub> limits have been set equal to the allowable particulate emission rates pursuant to 326 IAC 6-3-2. The PM and PM<sub>10</sub> values represent the unrestricted potential emissions, or, for those units equipped with control equipment, the limited potential to emit as determined under 326 IAC 6-3-2 of the permit. Pursuant to 326 IAC 6-3-2(d)(3), sources that operate according to a valid permit pursuant to 326 IAC 2-7 (Part 70) or 326 IAC 2-8 (FESOP) are exempt from 326 IAC 6-3-2(d)(2).</p> <p>*** The source has requested to show the particulate emissions and the HAP emissions for nickel and manganese for the Flame Spray Unit as Controlled Emissions in the After Issuance table, since the dust collector will be use as required by NESHAP WWWW. The dust collector has been rated at 99% efficiency.</p> <p>The emission figures in this table are as presented in the documentation for FESOP Renewal No. 081-28719-00056, issued May 20, 2010.</p>							

The table below summarizes the potential to emit of the entire source after issuance of this revision, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this FESOP permit revision, and only to the extent that the effect of the control equipment is made practically enforceable in the permit. (Note: the table below was generated from the above table, with bold text un-bolded and strikethrough text deleted)

Process/ Emission Unit	Potential To Emit After Issuance of the Revision (tons/year)							
	PM	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs
Surface Coating (PB#1)	0.71	0.71	0.00	0.00	10.40	0.00	0.00	2.58
Misc. Plant-wide (P001)	0.00	0.00	0.00	0.00	27.01	0.00	0.00	2.45
Cold Cleaning Degreasers (P002)	0.00	0.00	0.00	0.00	25.96	0.00	0.00	0.048
Natural Gas Heaters and Washers (P003)	0.54	2.17	2.17	0.17	1.57	24.01	28.58	0.54
Engine Test Cells (P004)	5.37	5.37	5.37	5.02	6.24	16.46	59.60*	0.49
Burn-Off Oven w/Afterburner (P005)	4.53	4.53	4.53	0.04	0.33	5.08	6.04	0.00
Abrasive Blasting (P006)**	121.76	41.15	41.15	0.00	0.00	0.00	0.00	0.00
Welding (P007)	0.84	0.84	0.84	0.00	0.00	0.00	0.00	0.00
Parts Washer (P008)	0.00	0.00	0.00	0.00	0.96	0.00	0.00	0.09
Flame Spray Unit FS-1	0.06	0.06	0.06	0.00	0.00	0.00	0.00	0.004
Emergency Natural Gas Fired Generator #1	0.00	0.00	0.00	0.00	0.01	0.03	0.21	0.001
Total Emissions	133.82	54.84	54.84	5.23	72.47	45.55	94.23	6.204
Title V Major Source Thresholds	NA	100	100	100	100	100	100	10/25
PSD Major Source Thresholds	250	250	NA	250	250	250	250	NA
Emission Offset/ Nonattainment New Source Review/ Major Source Thresholds	NA	NA	100	NA	NA	NA	NA	NA
*PM/PM <sub>10</sub> PTE After Control	<p>Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal ten (10) micrometers (PM<sub>10</sub>), not particulate matter (PM), is considered as a "regulated air pollutant". Additionally, US EPA has directed states to regulate PM<sub>10</sub> emissions as surrogate for PM<sub>2.5</sub> emissions.</p> <p>* Pursuant to 326 IAC 2-8, the Permittee will maintain the limit NO<sub>x</sub> emission to below 100 tons per year, by:                      (a) limiting the input of diesel fuel to the diesel-powered engine test cells (P004) to less than 252,920 gallons per twelve (12) consecutive month period with compliance determined at the end of each month                      (b) the potential to emit of NO<sub>x</sub> shall not exceed an emission rate factor of 0.47 pounds of NO<sub>x</sub> per gallon of diesel fuel.</p> <p>** The PM values represent the allowable emissions pursuant to 326 IAC 6-3-2. the hourly PM<sub>10</sub> limits have been set equal to the allowable particulate emission rates pursuant to 326 IAC 6-3-2.                      The PM and PM<sub>10</sub> values represent the unrestricted potential emissions, or, for those units equipped with control equipment, the limited potential to emit as determined under 326 IAC 6-3-2 of the permit.                      Pursuant to 326 IAC 6-3-2(d)(3), sources that operate according to a valid permit pursuant to 326 IAC 2-7 (Part 70) or 326 IAC 2-8 (FESOP) are exempt from 326 IAC 6-3-2(d)(2).</p> <p>*** The source has requested to show the particulate emissions and the HAP emissions for nickel and manganese for the Flame Spray Unit as Controlled Emissions in the After Issuance table, since the dust collector will be use as required by NESHAP WWWW. The dust collector has been rated at 99% efficiency.</p> <p>The emission figures in this table are as presented in the documentation for FESOP Renewal No. 081-28719-00056, issued May 20, 2010.</p>							

- (a) FESOP Status  
 This revision to an existing Title V minor stationary source will not change the minor status, because the potential to emit criteria pollutants from the entire source will still be limited to less than the Title V major source threshold levels. Therefore, the source will still be subject to the provisions of 326 IAC 2-8 (FESOP).

- (b) **PSD Minor Source**  
This modification to an existing PSD minor stationary source will not change the PSD minor status, because the potential to emit of all attainment regulated pollutants from the entire source will continue to be less than the PSD major source threshold levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.
- (c) **Emission Offset Minor Source**  
This modification to an existing Emission Offset minor stationary source will not change the Emission Offset minor status, because the potential to emit of all nonattainment regulated pollutants from the entire source will continue to be less than the Emission Offset major source threshold levels. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

<b>Federal Rule Applicability Determination</b>
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New Source Performance Standards (NSPS)

- (a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included for this proposed revision.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

- (b) The Flame Spray unit FS-01 is subject to the National Emission Standards for Hazardous Air Pollutants for Area Sources for Plating and Polishing Operations (40 CFR 63, Subpart WWWWWW), because this operation uses compounds containing nickel and manganese at an area source of HAPs. Therefore, the FS-01 operation is subject to the requirements of 40 CFR 63, Subpart WWWWWW.

Applicable portions of the NESHAP are the following:

- (1) 40 CFR 63.11504
- (2) 40 CFR 63.11505
- (3) 40 CFR 63.11506
- (4) 40 CFR 63.11507
- (5) 40 CFR 63.11508
- (6) 40 CFR 63.11509
- (7) 40 CFR 63.115010
- (8) 40 CFR 63.115011

The requirements of 40 CFR Part 63, Subpart WWWWWW are included in their entirety in Attachment C of the permit.

The requirements of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the Flame Spray FS-01 unit except as otherwise specified in 40 CFR 63, Subpart WWWWWW.

- (c) There are no other National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included for this proposed revision.

Compliance Assurance Monitoring (CAM)

- (d) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is not included in the permit, because the potential to emit of the source is limited to less than the Title V major source thresholds and the source is not required to obtain a Part 70 or Part 71 permit.

### State Rule Applicability Determination

The following state rules are applicable to the proposed revision:

- (a) 326 IAC 2-8-4 (FESOP)  
This revision to an existing Title V minor stationary source will not change the minor status, because the potential to emit criteria pollutants from the entire source will still be limited to less than the Title V major source threshold levels. Therefore, the source will still be subject to the provisions of 326 IAC 2-8 (FESOP). See PTE of the Entire Source After Issuance of the FESOP Revision Section above.
- (b) 326 IAC 2-2 (Prevention of Significant Deterioration(PSD))  
This modification to an existing PSD minor stationary source will not change the PSD minor status, because the potential to emit of all attainment regulated pollutants from the entire source will continue to be less than the PSD major source threshold levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply. See PTE of the Entire Source After Issuance of the FESOP Revision Section above.
- (c) 326 IAC 2-3 (Emission Offset) and 326 IAC 2-1.1-5 (Nonattainment New Source Review)  
This modification to an existing Emission Offset minor stationary source will not change the Emission Offset minor status, because the potential to emit of all nonattainment regulated pollutants from the entire source will continue to be less than the Emission Offset major source threshold levels. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply. See PTE of the Entire Source After Issuance of the FESOP Revision Section above.  
  
This modification to an existing minor stationary source under 326 IAC 2-1.1-5 (Nonattainment New Source Review) will not change the minor status, because the potential to emit of PM<sub>2.5</sub> from the entire source will continue to be less than 100 tons per year. Therefore, pursuant to 326 IAC 2-1.1-5, the Nonattainment New Source Review requirements do not apply. See PTE of the Entire Source After Issuance of the FESOP Revision Section above.
- (d) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))  
The proposed revision is not subject to the requirements of 326 IAC 2-4.1, since the unlimited potential to emit of HAPs from the modified FS-01 is less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs.
- (e) 326 IAC 2-6 (Emission Reporting)  
Pursuant to 326 IAC 2-6-1, this source is not subject to this rule, because it is not required to have an operating permit under 326 IAC 2-7 (Part 70), it is not located in Lake, Porter, or LaPorte County, and it does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Therefore, 326 IAC 2-6 does not apply.
- (f) 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 this permit:
  - (1) 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.
  - (2) 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.

- (g) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)  
The Flame Spray unit FS-01 is subject to the requirements of 326 IAC 6-3-2 because it is a manufacturing process, it does not meet any of the exemptions listed in the rule, and because its uncontrolled particulate emissions are greater than 0.551 lb/hr.

Pursuant to 326 IAC 6-3-2(e), particulate emissions from the Flame Spray unit, FS-01, shall be determined by the following equation:

$$E = 4.10 P^{0.67}$$

Where

E = Rate of emissions in pounds per hour (lb/hr)

P = Process weight rate in tons per hour (tons/hr)

The process weight rate for this process is the weight of one engine plus the powdered materials spray-applied to one engine times the maximum number of engines per hour processed. With one engine weighing a maximum of 350 pounds, and a maximum of 5.30 pounds of powdered metal applied to each engine, the process weight is 355.3 pounds per engine. The maximum processed per hour is 5 engines, so the process weight rate is  $355.3 \times 5 = 1776.5$  lb/hr, or 0.89 tons per hour.

Applying the process weight rate to the above equation, the particulate emissions from the Flame Spray unit, FS-01, shall not exceed 3.77 lb/hr.

The uncontrolled potential to emit particulate from this process is 5.8 tons per year, or 1.32 lb/hr, which is less than the allowable emissions. Detailed calculations are shown in Appendix A of this document. Therefore, this process can comply with this limit without the use of a control device.

However, the source has requested to use the controlled emissions from this unit because it is required under NESHAP WWWW (40 CFR 63, Subpart WWWW) anyway. Since the source is using the controlled emissions, the following shall apply:

- (1) Pursuant to 326 IAC 6-3-2(d), particulate from the Flame Spray Unit FS-1 shall be controlled by a dry particulate filter, and the Permittee shall operate at all times that the process is running, and shall operate within manufacturer's specifications at all times.
- (h) 326 IAC 6-4 (Fugitive Dust Emissions Limitations)  
Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source 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.
- (i) There are no 326 IAC 8 Rules that are applicable to the FS-01 unit because there are no VOC emissions.

#### **Compliance Determination, Monitoring and Testing Requirements**

The existing compliance requirements will not change as a result of this revision. The source shall continue to comply with the applicable requirements and permit conditions as contained in FESOP No: 081-28719-00056, issued on May 20, 2010.

#### **Proposed Changes**

- (a) The source has requested to change the raw materials used in the Flame Spray unit, FS-01 from Nickel Aluminum Alloy and 1010 Steel powdered metal to Nickel Aluminum Alloy and 1080 Steel

powdered metal. The source also requested that the maximum annual throughput capacity be increased from 13,800 units per year to 43,800 units per year. Section A.2 of the permit will be changed to modify the description of Flame Spray unit FS-01. As discussed above, this unit will be moved from the Insignificant Activities section to the Permitted Units Section. Because of the throughput increase to the Flame Spray unit, 326 IAC 6-3-2 will apply, as discussed in the State Rule Applicability section above. Because of this new state rule applicability for this unit, a new D-Section will be added to the permit. The emission unit description in Sections A.2, D.7, and E.3 will also be revised to reflect the dust collector controlling that unit, although this control device is not needed to comply with the requirements of 326 IAC 6-3-2.

- (b) The source has requested to apply National Emission Standards (NESHAP) for Area Sources for Hazardous Air Pollutants for Plating and Polishing Operations, 40 CFR 63, Subpart WWWWWW for the Flame Spray unit FS-01. The permit has been changed to add Section E.3 to the permit to add the NESHAP requirements. Attachment C has been added to the permit with the full requirements of NESHAP Subpart WWWWWW.
- (c) The source has requested to show, for the Flame Spray unit, the controlled emissions for particulate and for the HAPs of nickel and manganese, since the dust collector is required by NESHAP WWWWWW anyway. The permit will be changed in Section D.7 to reflect the requirements for operating the dust collector, and Section E.3 will be changed to reference the applicable section of NESHAP WWWWWW.

The following changes listed below are due to the proposed revision. Deleted language appears as ~~strikethrough~~ text and new language appears as **bold** text:

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

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

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- (j) **Flame Spray Unit, identified as FS-1, constructed in 2010, approved for modification in 2011, maximum capacity of 43,800 43,800 units per year, materials used for the spraying are 1080 steel powder and nickel/aluminum alloy powder, controlled by a dust collector, exhausting to stack FSDC-1.**

**Under 40 CFR Part 63, Subpart WWWWWW, this unit is considered an affected source.**

A.3 Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-8-3(c)(3)(I)]

---

This stationary source also includes the following insignificant activities:

---

- ~~(z) Flame Spray Unit #1, identified as FS-1, approved for installation in 2010, maximum capacity of 13,800 units per year, materials used for the spraying are 1010 steel powder and nickel/aluminum alloy powder, exhausting to stack FSDC-1.~~

## SECTION D.7 EMISSIONS UNIT OPERATION CONDITIONS

**Emissions Unit Description [326 IAC 2-8-4(10)]**

- (j) **Flame Spray Unit, identified as FS-1, constructed in 2010, approved for modification 2011, maximum capacity of 43,800 units per year, materials used for the spraying are 1080 steel powder and nickel/aluminum alloy powder, controlled by a dust collector, exhausting to stack FSDC-1.**

**Under 40 CFR Part 63, Subpart WWWWWW, this unit is considered an affected**

**source.**

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

#### **D.7.1 Particulate Emissions for Manufacturing Processes [326 IAC 6-3-2]**

Pursuant to 326 IAC 6-3-2, particulate emissions from the Flame Spray unit, FS-01, shall not exceed 3.77 pounds per hour when operating at a process weight rate of 0.89 tons per hour. The pound per hour limitation was calculated with the following equation:

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:

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

Based on calculations, a control device is not needed to comply with this limit.

#### **D.7.2 Compliance Determination**

Pursuant to 326 IAC 6-3-2(d), particulate from the Flame Spray Unit FS-1 shall be controlled by a dry particulate filter, and the Permittee shall operate at all times that the process is running, and shall operate within manufacturer's specifications at all times.

#### **D.7.3 Compliance Monitoring**

In order to demonstrate compliance with Condition D.7.2, the Permittee shall comply with the monitoring requirements described in Section E.3 of this permit, for the National Emissions Standards for Hazardous Air Pollutants (NESHAP), 40 CFR Part 63.11508.

### **SECTION E.3 EMISSIONS UNIT OPERATION CONDITIONS**

#### **Emissions Unit Description [326 IAC 2-8-4(10)]**

- (j) Flame Spray Unit, identified as FS-1, constructed in 2010, approved for modification 2011, maximum capacity of 43,800 units per year, materials used for the spraying are 1080 steel powder and nickel/aluminum alloy powder, controlled by a dust collector, exhausting to stack FSDC-1.

Under 40 CFR Part 63, Subpart WWWW, this unit is considered an affected source.

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

#### **National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements [326 IAC 2-8-4(1)]**

##### **E.3.1 General Provisions Relating to NESHAP [40 CFR Part 63, Subpart A] [326 IAC 20-1]**

Pursuant to 40 CFR 63, 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, except as otherwise specified in 40 CFR 63, Subpart WWWW.

**E.3.2 National Emission Standards for Hazardous Air Pollutants (NESHAP) for Plating and Polishing Operations [40 CFR Part 63, Subpart WWWWWW]**

**The Permittee, which owns or operates a plating operation at an area source of HAP emissions shall comply with the following provisions of 40 CFR Part 63, Subpart WWWWWW (included as Attachment C of this permit):**

**Applicable portions of the NESHAP are the following:**

- (1) 40 CFR 63.11504**
- (2) 40 CFR 63.11505**
- (3) 40 CFR 63.11506**
- (4) 40 CFR 63.11507**
- (5) 40 CFR 63.11508**
- (6) 40 CFR 63.11509**
- (7) 40 CFR 63.115010**
- (8) 40 CFR 63.115011**

**Conclusion and Recommendation**

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on February 22, 2011. Additional information was received on March 28, 2011 and April 25, 2011.

The construction and operation of this proposed revision shall be subject to the conditions of the attached proposed FESOP Minor Revision No. 081-30269-00056. The staff recommends to the Commissioner that this FESOP Minor Revision be approved.

**IDEM Contact**

- (a) Questions regarding this proposed permit can be directed to Jack Harmon at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 233-4228 or toll free at 1-800-451-6027 extension 3-4228.
- (b) A copy of the findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: [www.in.gov/idem](http://www.in.gov/idem)

**Appendix A: Emission Calculations  
Summary of Emissions After Revision**

**Company Name: Caterpillar Reman Powertrain Indiana, Inc.  
Address City IN Zip: 751 International Drive, Franklin, IN 46131  
Permit Revision Number: 081-30269-00056  
Reviewer: Jack Harmon**

<b>Uncontrolled Potential to Emit (PTE) After Issuance of this MPR 30296 (tons/year)</b>								
<b>Process</b>	<b>PM</b>	<b>PM10</b>	<b>PM2.5</b>	<b>SO2</b>	<b>NOx</b>	<b>VOC</b>	<b>CO</b>	<b>HAPs</b>
Surface Coating (PB#1)	0.71	0.71	0.71	0.00	0.00	10.40	0.00	2.58
Misc. Plant-wide (P001)	0.00	0.00	0.00	0.00	0.00	27.01	0.00	2.45
Cold Cleaning Degreasers (P002)	0.00	0.00	0.00	0.00	0.00	25.96	0.00	0.048
Natural Gas Heaters and Washers (P003)	0.54	2.17	2.17	0.17	28.58	1.57	24.01	0.54
Engine Test Cells (P004)	5.37	5.37	5.37	5.02	59.60	6.24	16.46	0.49
Burn-Off Oven w/ Afterburner (P005)	4.53	4.53	4.53	0.04	6.04	0.33	5.08	0.00
Abrasive Blasting (P006)	121.76	41.15	41.15	0.00	0.00	0.00	0.00	0.00
Welding (P007)	0.84	0.84	0.84	0.00	0.00	0.00	0.00	0.00
Parts Washer (P008)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flame Spray Unit FS-01	5.80	5.80	5.80	0.00	0.00	0.00	0.00	0.36
<b>Total</b>	<b>138.35</b>	<b>59.37</b>	<b>60.58</b>	<b>5.23</b>	<b>94.23</b>	<b>72.47</b>	<b>45.55</b>	<b>6.47</b>

<b>Controlled Potential to Emit (PTE) After Issuance of this MPR 30296 (tons/year)</b>								
<b>Process</b>	<b>PM</b>	<b>PM10</b>	<b>PM2.5</b>	<b>SO2</b>	<b>NOx</b>	<b>VOC</b>	<b>CO</b>	<b>HAPs</b>
Surface Coating (PB#1)	0.71	0.71	0.71	0.00	0.00	10.40	0.00	2.58
Misc. Plant-wide (P001)	0.00	0.00	0.00	0.00	0.00	27.01	0.00	2.45
Cold Cleaning Degreasers (P002)	0.00	0.00	0.00	0.00	0.00	25.96	0.00	0.048
Natural Gas Heaters and Washers (P003)	0.54	2.17	2.17	0.17	28.58	1.57	24.01	0.54
Engine Test Cells (P004)	5.37	5.37	5.37	5.02	59.60	6.24	16.46	0.49
Burn-Off Oven w/ Afterburner (P005)	4.53	4.53	4.53	0.04	6.04	0.33	5.08	0.00
Abrasive Blasting (P006)	121.76	41.15	41.15	0.00	0.00	0.00	0.00	0.00
Welding (P007)	0.84	0.84	0.84	0.00	0.00	0.00	0.00	0.00
Parts Washer (P008)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flame Spray Unit FS-01***	0.06	0.06	0.06	0.00	0.00	0.00	0.00	0.004
<b>Total</b>	<b>133.82</b>	<b>54.84</b>	<b>54.84</b>	<b>5.23</b>	<b>94.23</b>	<b>72.47</b>	<b>45.55</b>	<b>6.20</b>

\*\*\* The source has requested to show emissions from the Flame Spray Unit FS-1 as Controlled emissions, since it is required by NESHap WWWW to be controlled by the dust collector. Efficiency is rated at 99%.

**Appendix A: Emission Calculations  
Summary of Emissions of Revision**

**Company Name:** Caterpillar Reman Powertrain Indiana, Inc.  
**Address City IN Zip:** 751 International Drive, Franklin, IN 46131  
**Permit Revision Number:** 081-30269-00056  
**Reviewer:** Jack Harmon

Process	Potential to Emit (PTE) of Revision (tons/year)							
	PM	PM10	PM2.5	SO2	NOx	VOC	CO	HAPs
Flame Spray Unit FS-01 - original raw materials and throughput 13,800 units/yr	1.21	1.21	1.21	0.00	0.00	0.00	0.00	0.09
Flame Spray Unit FS-01 - revised raw materials and throughput 43,800 units/yr	5.80	5.80	5.80	0.00	0.00	0.00	0.00	0.36
<b>Total Increase Due to Revision</b>	<b>4.59</b>	<b>4.59</b>	<b>4.59</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.27</b>

**Appendix A: Emission Calculations**  
**Summary of Emissions Before Revision**

Company Name: Caterpillar Reman Powertrain Indiana, Inc.  
 Address City IN Zip: 751 International Drive, Franklin, IN 46131  
 Permit Revision Number: 081-30269-00056  
 Reviewer: Jack Harmon

Unlimited Potential to Emit (tons/year)								
	PM	PM10	PM2.5	SO <sub>2</sub>	NOx	VOC	CO	HAPs
Surface Coating (PB#1)	14.28	14.28	14.28	0.00	0.00	10.40	0.00	2.58
Misc. Plant-wide (P001)	0.00	0.00	0.00	0.00	0.00	27.01	0.00	2.45
Cold Cleaning Degreasers (P002)	0.00	0.00	0.00	0.00	0.00	25.96	0.00	0.048
Natural Gas Heaters and Washers (P003)	0.54	2.17	2.17	0.17	28.58	1.57	24.01	0.54
Engine Test Cells (P004)	12.17	12.17	12.17	11.34	133.71	10.96	36.94	0.49
Burn-Off Oven w/ Afterburner (P005)	4.53	4.53	4.53	0.04	6.04	0.33	5.08	0.00
Abrasive Blasting (P006)	5196.30	4440.94	4440.94	0.00	0.00	0.00	0.00	0.000
Welding (P007)	0.84	0.84	0.84	0.00	0.00	0.00	0.00	0.00
Parts Washer (P008)	0.00	0.00	0.00	0.00	0.00	0.96	0.00	0.09
Flame Spray Unit FS-01	1.21	1.21	1.21	0.00	0.00	0.00	0.00	0.09
<b>TOTAL PTE</b>	<b>5200.83</b>	<b>4445.47</b>	<b>4445.47</b>	<b>11.55</b>	<b>168.34</b>	<b>77.19</b>	<b>66.03</b>	<b>6.20</b>

Potential to Emit (PTE) After Issuance of FESOP 28719 (tons/year)								
Process	PM	PM10	PM2.5	SO <sub>2</sub>	NOx	VOC	CO	HAPs
Surface Coating (PB#1)	0.71	0.71	0.71	0.00	0.00	10.40	0.00	2.58
Misc. Plant-wide (P001)	0.00	0.00	0.00	0.00	0.00	27.01	0.00	2.45
Cold Cleaning Degreasers (P002)	0.00	0.00	0.00	0.00	0.00	25.96	0.00	0.048
Natural Gas Heaters and Washers (P003)	0.54	2.17	2.17	0.17	28.58	1.57	24.01	0.54
Engine Test Cells (P004)	5.37	5.37	5.37	5.02	59.60	6.24	16.46	0.49
Burn-Off Oven w/ Afterburner (P005)	4.53	4.53	4.53	0.04	6.04	0.33	5.08	0.00
Abrasive Blasting (P006)	121.76	41.15	41.15	0.00	0.00	0.00	0.00	0.00
Welding (P007)	0.84	0.84	0.84	0.00	0.00	0.00	0.00	0.00
Parts Washer (P008)	0.00	0.00	0.00	0.00	0.00	0.96	0.00	0.09
Flame Spray Unit FS-01	1.21	1.21	1.21	0.00	0.00	0.00	0.00	0.09
<b>Total</b>	<b>133.76</b>	<b>54.78</b>	<b>54.78</b>	<b>5.23</b>	<b>94.23</b>	<b>72.47</b>	<b>45.55</b>	<b>6.20</b>

\*PM/PM10 PTE After Control

**Appendix A: Emissions Calculations  
VOC and Particulate  
From Surface Coating Operations (PB#1)**

**Company Name: Caterpillar Reman Powertrain Indiana, Inc.  
Address City IN Zip: 751 International Drive, Franklin, IN 46131  
Permit Number: 081-30269-00056  
Reviewer: Jack Harmon**

<b>PB#1</b>																		
Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (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)	% Glycol Ethers	Potential Glycol Ethers (tons per year)	% Triethylamine	Potential Triethylamine (tons per year)	Total HAPs (tons/yr)
280 Water Reducible Enamel	9.86	54.50%	39.7%	14.9%	47.0%	32.94%	0.2904	4.1	2.76	1.46	1.75	41.94	7.65	4.00%	2.06	1%	0.52	<b>2.58</b>
2-Butoxy-ethanol Reducer	7.51	100.00%	0.0%	100.0%	0.0%	0.00%	0.0203	4.1	7.51	7.51	0.63	15.04	2.74	0.00%	0.00	0%	0.00	<b>0.00</b>
<b>Total</b>											<b>2.37</b>	<b>56.98</b>	<b>10.40</b>		<b>2.06</b>		<b>0.52</b>	<b>2.58</b>

**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)  
Potential HAPs Tons per Year = Density (lb/gal) \* Gal of Mat. (gal/unit) \* Maximum (units/hr) \* % HAP \* (8760 hr/yr) \* (1 ton/2000 lbs)

**Spray Paint Booth PM**

Product	Density (Lb/Gal)	% Solids by Weight	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Solids transfer efficiency	Uncontrolled PM/PM10 (lbs/day)	Uncontrolled PM/PM10 (tons/year)	PM Control Efficiency	Controlled PM/PM10 (lbs/day)	Controlled PM/PM10 (tons/year)
280 Water Reducible Enamel	9.86	45.54%	0.2904	5.00	50%	78.24	14.28	95%	<b>3.91</b>	<b>0.71</b>

**METHODOLOGY**

Uncontrolled PM/PM10 Pounds Per Day = Density (lb/gal) \* % Solids by Weight \* Gal of Mat. (gal/unit) \* Maximum (units/hr) \* (1- % Transfer Efficiency) \* (24 hr/day)  
Uncontrolled PM/PM10 Tons Per Year = Density (lb/gal) \* % Solids by Weight \* Gal of Mat. (gal/unit) \* Maximum (units/hr) \* (1- % Transfer Efficiency) \* (8760 hr/yr) \* (1 ton/2000 lbs)  
Controlled PM/PM10 Pounds Per Day = Uncontrolled PM/PM10 (lbs/day) \* (1-% Control Efficiency)  
Controlled PM/PM10 Tons Per Year = Uncontrolled PM/PM10 (tons/yr) \* (1-% Control Efficiency)

**Appendix A: Emissions Calculations**  
**Cold Cleaning Degreasers, Emission Unit P002**

**Company Name: Caterpillar Reman Powertrain Indiana, Inc.**  
**Address City IN Zip: 751 International Drive, Franklin, IN 46131**  
**Permit Number: 081-30269-00056**  
**Reviewer: Jack Harmon**

Unit ID	Unit Description	Product Manufacturer	Number of Cold Cleaner Degreaser Units	Usage Per Degreaser	Density of Product VOC	VOC Emissions	HAP Naphthalene	HAP Naphthalene	HAP Naphthalene
				(gal/day)	(lb/gal)	(tpy)	% wt.	lb/hr	tons/yr
CC-1 - CC-5	Agitating Cold Solvent Washer	Safety Kleen Premium Solvent	5	0.70	7.00	4.47	0.00	0.00	0.00
CC-6, CC-8 - CC-11	Agitating Cold Solvent Washer	Safety Kleen Premium Solvent	5	0.70	7.00	4.47	0.00	0.00	0.00
CC-12 - CC-14	Cold Solvent Wash Sink	Safety Kleen Premium Solvent	3	0.30	7.00	1.15	0.00	0.00	0.00
ACC1 - ACC5	Agitating Cold Solvent Washer	Safety Kleen Premium Solvent	5	0.60	7.00	3.83	0.00	0.00	0.00
CC-7	Agitating Cold Solvent Washer	Safety Kleen Premium Solvent	1	0.50	7.00	0.64	0.00	0.00	0.00
CCC-1 - CCC-8	Calibrating Fluid Cold Solvent Washer	Calibrating Fluid Wash	8	1.20	5.13	8.99	0.00	0.00	0.00
CC-170A	Agitating Cold Solvent Washer	Petroleum HC Distillate, Solvent 170	1	2.00	6.59	2.41	2.00%	0.011	0.048
<b>Totals:</b>						<b>25.96</b>			<b>0.048</b>

**METHODOLOGY**

Potential VOC Tons per Year = No. of Degreaser Units \* Usage per Degreaser (gals/day) \* Density of Product (lb/gal) \* (365 days/yr) \* (1 ton / 2000 lbs)

Potential HAPs Tons per Year = Usage per Degreaser (gals/day) \* Density (lb/gal) \* % by wt. HAP \* 365 (days/yr) \* 1/2000 (ton/lbs)

**Appendix A: Emissions Calculations**

**Natural Gas Combustion Only**

**MM BTU/HR <100**

**Boiler, Heaters and Washers**

**Company Name: Caterpillar Reman Powertrain Indiana, Inc.**

**Address City IN Zip: 751 International Drive, Franklin, IN 46131**

**Permit Number: 081-30269-00056**

**Reviewer: Jack Harmon**

Description	Total Input (MMBtu/hr)
One (1) Air Make-Up Unit	10.4
One (1) Cambridge Air Make-Up Unit	3
Two (2) Thermadeck Air Make-Up Unit	11.66
Three (3) Air Curtains	28.5
One (1) Office Boiler	0.64
Two (2) Unit Heaters	0.3
One (1) Heater	0.06
One (1) Break Room/ Training Room Furnace	0.4
One (1) Office Furnace	0.06
Fourteen (14) Infrared Heaters	8.6
Four (4) Washers	1.637
<b>Total</b>	<b>65.257</b>

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
65.3	571.7

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100.0	5.5	84.0
				**see below		
Potential Emission in tons	0.54	2.17	0.17	28.58	1.57	24.01

\*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

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

**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 MMB

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/to

See next page for HAPs emissions calculations.

**Appendix A: Emissions Calculations**  
**Natural Gas Combustion Only**  
**MM BTU/HR <100**  
**Boiler, Heaters and Washers**  
**HAPs Emissions**

**Company Name: Caterpillar Reman Powertrain Indiana, Inc.**  
**Address City IN Zip: 751 International Drive, Franklin, IN 46131**  
**Permit Number: 081-30269-00056**  
**Reviewer: Jack Harmon**

HAPs - Organics					
Emission Factor in lb/MMc	Benzene 2.1E-03	Dichlorobenzen 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/	6.002E-04	3.430E-04	2.144E-02	5.145E-01	9.718E-04

HAPs - Metals					
Emission Factor in lb/MMc	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/	1.429E-04	3.144E-04	4.002E-04	1.086E-04	6.002E-04

Methodology is the same as previous page.

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: Emission Calculations**  
**Diesel Gas Fired Internal Combustion Engines**  
**Emissions**

**Company Name:** Caterpillar Reman Powertrain Indiana, Inc.  
**Address City IN Zip:** 751 International Drive, Franklin, IN 46131  
**Permit Number:** 081-30269-00056  
**Reviewer:** Jack Harmon

**Source: P004**

Dyno	Heat Input (MMBtu/hr)	Rating (Hp)
E-1 to E-8 combined	7.700	1263

Pollutant Emissions Uncontrolled					
Pollutant	PM10	SO2	CO	<sup>1)</sup> NOx - assume 22% reduction	TOC
Emission Factor (lb/hp-hr)	2.20E-03	2.05E-03	6.68E-03	3.10E-02	2.54E-03
Emissions (lbs/hr)	2.78	2.59	8.43	30.53	2.50
<b>Total Potential Emission (tpy) (E-1 to E-8)</b>	<b>12.17</b>	<b>11.34</b>	<b>36.94</b>	<b>133.71</b>	<b>10.96</b>

Pollutant Emissions (Fuel Limitation)				
Pollutant	PM10	SO2	CO	TOC
Emission Factor (lb/mmbtu)	0.31	0.29	0.95	0.36
Annual Fuel consumption (gal): 252,920				
Heat Capacity of Fuel (btu/gal): 137,000				
<b>Limited Potential Emission (tpy) (E-1 to E-8)</b>	<b>5.37</b>	<b>5.02</b>	<b>16.46</b>	<b>6.24</b>

Pollutant	NOx
Emission Factor (lb/gal diesel fuel)	0.47
Annual Fuel consumption (gal): 252,920	
<b>Limited Potential Emissions (tpy) (E-1 to E-8)</b>	<b>59.60</b>

Rating calculated as follows: (7 dynos) (1 engine/cell) (275 hp-hr/engine) + (1 dyno) (1 engine/cell) (600 hp-hr/engine) (1/2 hour per test)  
Heat Input (MMBtu/hr) per engine per 1/2 duty cycle \* 8 engines

**Methodology**

Emission Factors from AP-42, Chapter 3.3, Table 3.3-1, (Fifth Ed. 1996)

Particulate matter emissions are assumed to be in the form of PM10.

Potential Emissions Uncontrolled (lbs/hr) = Emission Factor \* Rating (hp)

Potential Emissions Controlled (Fuel Limitation) (tpy) = Emission Factor (lb/mmbtu) \* Annual Fuel Consumption (gal/yr) \* (Heat Capacity of Fuel (btu/gal) \* 1mm btu/1,000,000btu) / 2000 (lbs/tons)

Potential Emission Nox (22% reduction)

Maximum Fuel Rate per Dyno (gal/hr) = Heat input per cell (MMBtu/hr) \* 1/ Heat Capacity of diesel fuel (MMBtu/gal)  
= 0.963 MMBtu/hr \* 1/0.137 MMBtu/gal = 7.03 gal/hr per Dyno  
3.44 lb NOx/MMBtu conversion to an Emission factor in terms of lb NOx/gal diesel fuel  
= 3.44 lb NOx/MMBtu \* 0.137 MMBtu/gal diesel fuel = 0.47 lb NOx/gal diesel fuel

<sup>1)</sup> NOx emission factor was reduced by a factor of 22% to reflect inherently lower emission potential of turbocharged diesel engines. The engines being tested are designed to meet or exceed 1987 EPA national vehicle emission standards of 0.024 lb NOx/hp-hr or 3.44 lb NOx/MMBtu.

**Appendix A: Emission Calculations  
Diesel Gas Fired Internal Combustion Engines  
Emissions**

**Company Name:** Caterpillar Reman Powertrain Indiana, Inc.  
**Address City IN Zip:** 751 International Drive, Franklin, IN 46131  
**Permit Number:** 081-30269-00056  
**Reviewer:** Jack Harmon

Unit	Specific Heat Capacity of Diesel Fuel (Btu/gal)	Annual Fuel Limitation (gal/yr)
E-1 to E-8	137000	252920

HAPs Emissions - Uncontrolled		
Pollutant	Emission Factor (lbs/MMBtu)	Emissions (tpy)
1,3-Butadiene	3.91E-05	6.77E-04
Acetaldehyde	7.67E-04	1.33E-02
Acrolein	9.25E-05	1.60E-03
Benzene	9.33E-04	1.62E-02
Formaldehyde	1.18E-03	2.04E-02
PAH	1.68E-04	2.91E-03
Propylene	2.58E-03	4.47E-02
Toluene	4.09E-04	7.09E-03
Xylene	2.85E-04	4.94E-03
<b>Total HAP Emissions</b>		<b>0.49 (tpy)</b>

**Methodology**

Emission Factors are from AP-42, Chapter 3.3, Table 3.3-2, (Fifth Ed. 1996)

Potential Emissions (tpy) = Emission Factor (lb/mmbtu) \* Annual Fuel Consumption (gal/yr) \* Heat Capacity of Fuel (btu/gal) / 1,000,000 / 2000

**Appendix A: Emission Calculations**

**Natural Gas Combustion Only**

**MMBTU/HR >100**

**Burn-Off Ovens (P005)**

**Company Name: Caterpillar Reman Powertrain Indiana, Inc.**

**Address City IN Zip: 751 International Drive, Franklin, IN 46131**

**Permit Number: 081-30269-00056**

**Reviewer: Jack Harmon**

Description	Total Input Rating (MMBtu/hr)
Five (5) 1.2 MMBtu/hr Burn-Off Oven w/ 1.2 MMBtu/hr Afterburner	12
One (1) 0.2 MMBtu/hr Burn-Off Oven w/ 0.2 MMBtu/hr Afterburner	0.4
Two (2) 0.35 MMBtu/hr Burn-Off Oven w/ 0.35 MMBtu/hr Afterburn	1.4
<b>Total</b>	<b>13.8</b>

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
13.8	120.9

Emission Factor in lb/MMC	Pollutant					
	PM *	PM10 *	SO2	NOx	VOC	CO
Potential Emission in tons/	75.0	75.0	0.6	100.0	5.5	84.0
	4.53330	4.53330	0.03627	6.04440	0.33244	5.07730

**Methodology**

\* PM and PM10 emissions factors are from oven manufacturer.

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 M

Emission Factors from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-01-006-01, 1-0 (AP-42 Supplement D 3/98)

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

**Appendix A: Emission Calculations  
Abrasive Blasting - Confined (P006)**

**Company Name:** Caterpillar Reman Powertrain Indiana, Inc.  
**Address City IN Zip:** 751 International Drive, Franklin, IN 46131  
**Permit Number:** 081-30269-00056  
**Reviewer:** Jack Harmon

SSB1, SSB2, SSB8

**Table 1 - Emission Factors for Abrasives**

Abrasive	Emission Factor	
	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	

**Design Abrasive Flow Rate for Mechanical Blaster**

Abrasive Throw Rate:

1800	lb/min
5	minutes/cycle
8	cycles/hr
72000	lb/hr

**Uncontrolled Emissions (E, lb/hr)**

EF = emission factor (lb PM/ lb abrasive) From Table 1 =

0.004

FR = Abrasive Flow Rate (lb/hr) =

72000

<b>Uncontrolled PM Emissions =</b>	<b>288.00 lb/hr</b>
	<b>1261.44 ton/yr</b>
<b>Uncontrolled PM10 Emissions =</b>	<b>247.68 lb/hr</b>
	<b>1084.84 ton/yr</b>
<b>Controlled PM Emissions =</b>	<b>0.86 lb/hr</b>
	<b>3.78 ton/yr</b>
<b>Controlled PM10 Emissions =</b>	<b>0.74 lb/hr</b>
	<b>3.25 ton/yr</b>

**METHODOLOGY**

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)

Ton/yr = lb/hr X 8760 hr/yr X ton/2000 lbs

E = EF x FR

**Appendix A: Emission Calculations**  
**Abrasive Blasting - Confined - Mechanical Blasting (P006)**

Company Name: Caterpillar Reman Powertrain Indiana, Inc.  
 Address City IN Zip: 751 International Drive, Franklin, IN 46131  
 Permit Number: 081-30269-00056  
 Reviewer: Jack Harmon

SSB4

**Table 1 - Emission Factors for Abrasives**

Abrasive	Emission Factor	
	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	

**Design Abrasive Throw Rate for Mechanical Blaster**

Abrasive Throw Rate:	600	lb/min
	10	minutes/cycle
	4	cycles/hr
	24000	lb/hr

**Uncontrolled Emissions (E, lb/hr)**

EF = emission factor (lb PM/ lb abrasive) From Table 1 =  
 FR = Abrasive Flow Rate (lb/hr) =

0.004
24000

<b>Uncontrolled PM Emissions =</b>	<b>96.00 lb/hr</b>
	<b>420.48 ton/yr</b>
<b>Uncontrolled PM10 Emissions =</b>	<b>82.56 lb/hr</b>
	<b>361.61 ton/yr</b>
<b>Controlled PM Emissions =</b>	<b>0.29 lb/hr</b>
	<b>1.26 ton/yr</b>
<b>Controlled PM10 Emissions =</b>	<b>0.25 lb/hr</b>
	<b>1.08 ton/yr</b>

**METHODOLOGY**

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)  
 Ton/yr = lb/hr X 8760 hr/yr X ton/2  
 E = EF x FR

**Appendix A: Emission Calculations**  
**Abrasive Blasting - Confined (P006)**

**Company Name:** Caterpillar Reman Powertrain Indiana, Inc.  
**Address City IN Zip:** 751 International Drive, Franklin, IN 46131  
**Permit Number:** 081-30269-00056  
**Reviewer:** Jack Harmon

SSB5

**Table 1 - Emission Factors for Abrasives**

Abrasive	Emission Factor	
	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	

**Design Abrasive Flow Rate for Mechanical Blaster**

Abrasive Throw Rate:

900	lb/min
10	minutes/cycle
4	cycles/hr
36000	lb/hr

**Uncontrolled Emissions (E, lb/hr)**

EF = emission factor (lb PM/ lb abrasive) From Table 1 =

0.004

FR = Abrasive Flow Rate (lb/hr) =

36000

<b>Uncontrolled PM Emission</b>	<b>144.00 lb/hr</b>
	<b>630.72 ton/yr</b>
<b>Uncontrolled PM10 Emission</b>	<b>123.84 lb/hr</b>
	<b>542.42 ton/yr</b>
<b>Controlled PM Emission</b>	<b>0.43 lb/hr</b>
	<b>1.89 ton/yr</b>
<b>Controlled PM10 Emission</b>	<b>0.37 lb/hr</b>
	<b>1.63 ton/yr</b>

**METHODOLOGY**

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)

Ton/yr = lb/hr X 8760 hr/yr X ton/2000

E = EF x FR

**Appendix A: Emission Calculations  
Abrasive Blasting - Confined (P006)**

**Company Name:** Caterpillar Reman Powertrain Indiana, Inc.  
**Address City IN Zip:** 751 International Drive, Franklin, IN 46131  
**Permit Number:** 081-30269-00056  
**Reviewer:** Jack Harmon

SSB7

**Table 1 - Emission Factors for Abrasives**

Abrasive	Emission Factor	
	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	

**Design Abrasive Flow Rate for Mechanical Blaster**

Abrasive Flow Rate:

300	lb/min
10	minutes/cycle
4	cycles/hr
12000	lb/hr

**Uncontrolled Emissions (E, lb/hr)**

EF = emission factor (lb PM/ lb abrasive) From Table 1 =

0.004

FR = Abrasive Flow Rate (lb/hr) =

12000

<b>Uncontrolled PM Emissions =</b>	<b>48.00 lb/hr</b>
	<b>210.24 ton/yr</b>
<b>Uncontrolled PM10 Emissions =</b>	<b>41.28 lb/hr</b>
	<b>180.81 ton/yr</b>
<b>Controlled PM Emissions =</b>	<b>0.14 lb/hr</b>
	<b>0.63 ton/yr</b>
<b>Controlled PM10 Emissions =</b>	<b>0.12 lb/hr</b>
	<b>0.54 ton/yr</b>

**METHODOLOGY**

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)

Ton/yr = lb/hr X 8760 hr/yr X ton

E = EF x FR

Appendix A: Emission Calculations

Abrasive Blasting - Confined (P006)

Company Name: Caterpillar Reman Powertrain Indiana, Inc.  
 Address City IN Zip: 751 International Drive, Franklin, IN 46131  
 Permit Number: 081-30269-00056  
 Reviewer: Jack Harmon

GBB#4 - GBB#9

Table 1 - Emission Factors for Abrasives

Abrasive	Emission Factor	
	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	

Table 2 - Density of Abrasives (lb/ft3)

Abrasive	Density (lb/ft3)
Al oxides	160
Sand	99
Steel	487

Table 3 - Sand Flow Rate (FR1) Through Nozzle (lb/hr)

Flow rate of Sand Through a Blasting Nozzle as a Function of Nozzle pressure and Internal Diameter

Internal diameter, in	Nozzle Pressure (psig)							
	30	40	50	60	70	80	90	100
1/8	28	35	42	49	55	63	70	77
3/16	65	80	94	107	122	135	149	165
1/4	109	138	168	195	221	255	280	309
5/16	205	247	292	354	377	420	462	507
3/8	285	355	417	477	540	600	657	720
7/16	385	472	560	645	755	820	905	940
1/2	503	615	725	835	945	1050	1160	1265
5/8	820	990	1170	1336	1510	1680	1850	2030
3/4	1140	1420	1670	1915	2160	2400	2630	2880
1	2030	2460	2900	3340	3780	4200	4640	5060

Calculations

Adjusting Flow Rates for Different Abrasives and Nozzle Diameters

Flow Rate (FR) = Abrasive flow rate (lb/hr) with internal nozzle diameter (ID)  
 FR1 = Sand flow rate (lb/hr) with internal nozzle diameter (ID1) From Table 3 =  
 D = Density of abrasive (lb/ft3) From Table 2 =  
 D1 = Density of sand (lb/ft3) =  
 ID = Actual nozzle internal diameter (in) =  
 ID1 = Nozzle internal diameter (in) from Table 3 =

195
100
99
0.25
0.25

Flow Rate (FR) (lb/hr) = 196.970 per nozzle

Uncontrolled Emissions (E, lb/hr)

EF = emission factor (lb PM/ lb abrasive) From Table 1 =  
 FR = Flow Rate (lb/hr) =  
 w = fraction of time of wet blasting =  
 N = number of nozzles =

0.010
196.970
0 %
1

	PM	PM10
Uncontrolled Emissions	1.97 lb/hr	1.38
	8.63 ton/yr	6.04
Controlled Emissions	0.02 lb/hr	0.01
	0.09 ton/yr	0.06

METHODOLOGY

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)

Ton/yr = lb/hr X 8760 hr/yr X ton/2000 lbs

Flow Rate (FR) (lb/hr) = FR1 x (ID/ID1)² x (D/D1)

E = EF x FR x (1-w/200) x N

w should be entered in as a whole number (if w is 50%, enter 50)

**Appendix A: Emission Calculations**

**Abrasive Blasting - Confined (P006)**

**Company Name:** Caterpillar Reman Powertrain Indiana, Inc.

**Address City IN Zip:** 751 International Drive, Franklin, IN 46131

**Permit Number:** 081-30269-00056

**Reviewer:** Jack Harmon

GBB#1 - GBB#3

**Table 1 - Emission Factors for Abrasives**

Abrasive	Emission Factor	
	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	

**Table 2 - Density of Abrasives (lb/ft3)**

Abrasive	Density (lb/ft3)
Al oxides	160
Sand	99
Steel	487

**Table 3 - Sand Flow Rate (FR1) Through Nozzle (lb/hr)**

Flow rate of Sand Through a Blasting Nozzle as a Function of Nozzle pressure and Internal Diameter

Internal diameter, in	Nozzle Pressure (psig)							
	30	40	50	60	70	80	90	100
1/8	28	35	42	49	55	63	70	77
3/16	65	80	94	107	122	135	149	165
1/4	109	138	168	195	221	255	280	309
5/16	205	247	292	354	377	420	462	507
3/8	285	355	417	477	540	600	657	720
7/16	385	472	560	645	755	820	905	940
1/2	503	615	725	835	945	1050	1160	1265
5/8	820	990	1170	1336	1510	1680	1850	2030
3/4	1140	1420	1670	1915	2160	2400	2630	2880
1	2030	2460	2900	3340	3780	4200	4640	5060

**Calculations**

*Adjusting Flow Rates for Different Abrasives and Nozzle Diameters*

Flow Rate (FR) = Abrasive flow rate (lb/hr) with internal nozzle diameter (ID)  
 FR1 = Sand flow rate (lb/hr) with internal nozzle diameter (ID1) From Table 3 =  
 D = Density of abrasive (lb/ft3) From Table 2 =  
 D1 = Density of sand (lb/ft3) =  
 ID = Actual nozzle internal diameter (in) =  
 ID1 = Nozzle internal diameter (in) from Table 3 =

195
100
99
0.25
0.25

**Flow Rate (FR) (lb/hr) = 196.970 per nozzle**

**Uncontrolled Emissions (E, lb/hr)**

EF = emission factor (lb PM/ lb abrasive) From Table 1 =  
 FR = Flow Rate (lb/hr) =  
 w = fraction of time of wet blasting =  
 N = number of nozzles =

0.010
196.970
0 %
1

	PM	PM10
<b>Uncontrolled Emissions</b>	<b>1.97 lb/hr</b>	<b>1.38</b>
	<b>8.63 ton/yr</b>	<b>6.04</b>
<b>Controlled Emissions =</b>	<b>0.02 lb/hr</b>	<b>0.01</b>
	<b>0.09 ton/yr</b>	<b>0.06</b>

**METHODOLOGY**

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. 1, Section 3 "Abrasive Blasting" (1991 edition)

Ton/yr = lb/hr X 8760 hr/yr X ton/2000 lbs

Flow Rate (FR) (lb/hr) = FR1 x (ID/ID1)2 x (D/D1)

E = EF x FR x (1-w/200) x N

w should be entered in as a whole number (if w is 50%, enter 50)

GBB#10

Table 1 - Emission Factors for Abrasives

Abrasive	Emission Factor	
	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	

Table 2 - Density of Abrasives (lb/ft3)

Abrasive	Density (lb/ft3)
Al oxides	160
Sand	99
Steel	487

Table 3 - Sand Flow Rate (FR1) Through Nozzle (i)

Flow rate of Sand Through a Blasting Nozzle as a Function of Nozzle pressure and Internal Diar

Internal diar	Nozzle Pressure (psig)							
	30	40	50	60	70	80	90	100
1/8	28	35	42	49	55	63	70	77
3/16	65	80	94	107	122	135	149	165
1/4	109	138	168	195	221	255	280	309
5/16	205	247	292	354	377	420	462	507
3/8	285	355	417	477	540	600	657	720
7/16	385	472	560	645	755	820	905	940
1/2	503	615	725	835	945	1050	1160	1265
5/8	820	990	1170	1336	1510	1680	1850	2030
3/4	1140	1420	1670	1915	2160	2400	2630	2880
1	2030	2460	2900	3340	3780	4200	4640	5060

Calculations

Adjusting Flow Rates for Different Abrasives and Nozzle Diameter.

Flow Rate (FR) = Abrasive flow rate (lb/hr) with internal nozzle diameter (ID)

FR1 = Sand flow rate (lb/hr) with internal nozzle diameter (ID1) From Table 3 =

D = Density of abrasive (lb/ft3) From Table 2 =

D1 = Density of sand (lb/ft3) =

ID = Actual nozzle internal diameter (in) =

ID1 = Nozzle internal diameter (in) from Table 3 =

354
90
99
0.3125
0.3125

Flow Rate (FR) (lb/hr) = 321.818 per nozzle

Uncontrolled Emissions (E, lb/hr)

EF = emission factor (lb PM/ lb abrasive) From Table 1 =

FR = Flow Rate (lb/hr) =

w = fraction of time of wet blasting =

N = number of nozzles =

0.010
321.818
0 %
1

	PM	PM10
Uncontrolled Emissions =	3.22 lb/hr	2.25
	14.10 ton/yr	9.87
Controlled Emissions =	0.03 lb/hr	0.02
	0.14 ton/yr	0.10

METHODOLOGY

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 ec)

Ton/yr = lb/hr X 8760 hr/yr X ton/;

Flow Rate (FR) (lb/hr) = FR1 x (ID/ID1)2 x (D/D1)

E = EF x FR x (1-w/200) x N

w should be entered in as a whole number (if w is 50%, enter 50)

**Appendix A: Emission Calculations**

**Abrasive Blasting - Confined (P006)**

Company Name: Caterpillar Reman Powertrain Indiana, Inc.  
 Address City IN Zip: 751 International Drive, Franklin, IN 46131  
 Permit Number: 081-30269-00056  
 Reviewer: Jack Harmon

GBB #11 - GBB#12

**Table 1 - Emission Factors for Abrasives**

Abrasive	Emission Factor	
	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	

**Table 2 - Density of Abrasives (lb/ft3)**

Abrasive	Density (lb/ft3)
Al oxides	160
Sand	99
Steel	487

**Table 3 - Sand Flow Rate (FR1) Through Nozzle (lb/hr)**

Flow rate of Sand Through a Blasting Nozzle as a Function of Nozzle pressure and Internal Diame

Internal diam	Nozzle Pressure (psig)							
	30	40	50	60	70	80	90	100
1/8	28	35	42	49	55	63	70	77
3/16	65	80	94	107	122	135	149	165
1/4	109	138	168	195	221	255	280	309
5/16	205	247	292	354	377	420	462	507
3/8	285	355	417	477	540	600	657	720
7/16	385	472	560	645	755	820	905	940
1/2	503	615	725	835	945	1050	1160	1265
5/8	820	990	1170	1336	1510	1680	1850	2030
3/4	1140	1420	1670	1915	2160	2400	2630	2880
1	2030	2460	2900	3340	3780	4200	4640	5060

**Calculations**

Adjusting Flow Rates for Different Abrasives and Nozzle Diameters

Flow Rate (FR) = Abrasive flow rate (lb/hr) with internal nozzle diameter (ID)  
 FR1 = Sand flow rate (lb/hr) with internal nozzle diameter (ID1) From Table 3 =  
 D = Density of abrasive (lb/ft3) From Table 2 =  
 D1 = Density of sand (lb/ft3) =  
 ID = Actual nozzle internal diameter (in) =  
 ID1 = Nozzle internal diameter (in) from Table 3 =

107
90
99
0.15625
0.1875

Flow Rate (FR) (lb/hr) = 67.551 per nozzle

**Uncontrolled Emissions (E, lb/hr)**

EF = emission factor (lb PM/ lb abrasive) From Table 1 =  
 FR = Flow Rate (lb/hr) =  
 w = fraction of time of wet blasting =  
 N = number of nozzles =

0.010		
67.551		
0 %		
1		
	PM	PM10
Uncontrolled Emissions	0.68 lb/hr	0.47
	2.96 ton/yr	2.07
Controlled Emissions =	0.01 lb/hr	0.00
	0.03 ton/yr	0.02

**METHODOLOGY**

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 editi  
 Ton/yr = lb/hr X 8760 hr/yr X ton  
 Flow Rate (FR) (lb/hr) = FR1 x (ID/ID1)2 x (D/D1)  
 E = EF x FR x (1-w/200) x N  
 w should be entered in as a whole number (if w is 50%, enter 50)

**Appendix A: Emission Calculations  
Abrasive Blasting - Confined (P006)**

**Company Name:** Caterpillar Reman Powertrain Indiana, Inc.  
**Address City IN Zip:** 751 International Drive, Franklin, IN 46131  
**Permit Number:** 081-30269-00056  
**Reviewer:** Jack Harmon

PBB #1 & PBB# 6

**Table 1 - Emission Factors for Abrasives**

Abrasive	Emission Factor	
	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	

**Table 2 - Density of Abrasives (lb/ft3)**

Abrasive	Density (lb/ft3)
Al oxides	160
Sand	99
Steel	487

**Table 3 - Sand Flow Rate (FR1) Through Nozzle (lb/hr)**

Flow rate of Sand Through a Blasting Nozzle as a Function of Nozzle pressure and Internal Diameter

Internal diam	Nozzle Pressure (psig)							
	30	40	50	60	70	80	90	100
1/8	28	35	42	49	55	63	70	77
3/16	65	80	94	107	122	135	149	165
1/4	109	138	168	195	221	255	280	309
5/16	205	247	292	354	377	420	462	507
3/8	285	355	417	477	540	600	657	720
7/16	385	472	560	645	755	820	905	940
1/2	503	615	725	835	945	1050	1160	1265
5/8	820	990	1170	1336	1510	1680	1850	2030
3/4	1140	1420	1670	1915	2160	2400	2630	2880
1	2030	2460	2900	3340	3780	4200	4640	5060

**Calculations**

*Adjusting Flow Rates for Different Abrasives and Nozzle Diameters*

Flow Rate (FR) = Abrasive flow rate (lb/hr) with internal nozzle diameter (ID)

FR1 = Sand flow rate (lb/hr) with internal nozzle diameter (ID1) From Table 3 =

420

D = Density of abrasive (lb/ft3) From Table 2 =

50

D1 = Density of sand (lb/ft3) =

99

ID = Actual nozzle internal diameter (in) =

0.3125

ID1 = Nozzle internal diameter (in) from Table 3 =

0.3125

**Flow Rate (FR) (lb/hr) = 212.121 per nozzle**

**Uncontrolled Emissions (E, lb/hr)**

EF = emission factor (lb PM/ lb abrasive) From Table 1 =

0.010

FR = Flow Rate (lb/hr) =

212.121

w = fraction of time of wet blasting =

0 %

N = number of nozzles =

1

	PM	PM10
<b>Uncontrolled Emissions =</b>	<b>2.12 lb/hr</b>	<b>1.48</b>
	<b>9.29 ton/yr</b>	<b>6.50</b>
<b>Controlled Emissions =</b>	<b>0.02 lb/hr</b>	<b>0.01</b>
	<b>0.09 ton/yr</b>	<b>0.07</b>

**METHODOLOGY**

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)

Ton/yr = lb/hr X 8760 hr/yr X ton/

Flow Rate (FR) (lb/hr) = FR1 x (ID/ID1)2 x (D/D1)

E = EF x FR x (1-w/200) x N

w should be entered in as a whole number (if w is 50%, enter 50)

**Appendix A: Emission Calculations  
Abrasive Blasting - Confined (P006)**

**Company Name:** Caterpillar Reman Powertrain Indiana, Inc.  
**Address City IN Zip:** 751 International Drive, Franklin, IN 46131  
**Permit Number:** 081-30269-00056  
**Reviewer:** Jack Harmon

PBB #2 - PBB#5 & PBB#7

**Table 1 - Emission Factors for Abrasives**

Abrasive	Emission Factor	
	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	

**Table 2 - Density of Abrasives (lb/ft3)**

Abrasive	Density (lb/ft3)
Al oxides	160
Sand	99
Steel	487

**Table 3 - Sand Flow Rate (FR1) Through Nozzle (lb/hr)**

Flow rate of Sand Through a Blasting Nozzle as a Function of Nozzle pressure and Internal Diam

Internal diam	Nozzle Pressure (psig)							
	30	40	50	60	70	80	90	100
1/8	28	35	42	49	55	63	70	77
3/16	65	80	94	107	122	135	149	165
1/4	109	138	168	195	221	255	280	309
5/16	205	247	292	354	377	420	462	507
3/8	285	355	417	477	540	600	657	720
7/16	385	472	560	645	755	820	905	940
1/2	503	615	725	835	945	1050	1160	1265
5/8	820	990	1170	1336	1510	1680	1850	2030
3/4	1140	1420	1670	1915	2160	2400	2630	2880
1	2030	2460	2900	3340	3780	4200	4640	5060

**Calculations**

*Adjusting Flow Rates for Different Abrasives and Nozzle Diameters*

Flow Rate (FR) = Abrasive flow rate (lb/hr) with internal nozzle diameter (ID)

FR1 = Sand flow rate (lb/hr) with internal nozzle diameter (ID1) From Table 3 =

D = Density of abrasive (lb/ft3) From Table 2 =

D1 = Density of sand (lb/ft3) =

ID = Actual nozzle internal diameter (in) =

ID1 = Nozzle internal diameter (in) from Table 3 =

255
50
99
0.25
0.25

**Flow Rate (FR) (lb/hr) = 128.788 per nozzle**

**Uncontrolled Emissions (E, lb/hr)**

EF = emission factor (lb PM/ lb abrasive) From Table 1 =

FR = Flow Rate (lb/hr) =

w = fraction of time of wet blasting =

N = number of nozzles =

0.010
128.788
0 %
1

	PM	PM10
Uncontrolled Emissions	1.29 lb/hr	0.90
	5.64 ton/yr	3.95
Controlled Emissions =	0.01 lb/hr	0.01
	0.06 ton/yr	0.04

**METHODOLOGY**

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)

Ton/yr = lb/hr X 8760 hr/yr X ton

Flow Rate (FR) (lb/hr) = FR1 x (ID/ID1)2 x (D/D1)

E = EF x FR x (1-w/200) x N

w should be entered in as a whole number (if w is 50%, enter 50)

**Appendix A: Emission Calculations**  
**Abrasive Blasting - Confined (P006)**  
**Company Name: Caterpillar Reman Powertrain Indiana, Inc.**  
**Address City IN Zip: 751 International Drive, Franklin, IN 46131**  
**Permit Number: 081-30269-00056**  
**Reviewer: Jack Harmon**

PBB#8

**Table 1 - Emission Factors for Abrasives**

Abrasive	Emission Factor	
	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	

**Table 2 - Density of Abrasives (lb/ft3)**

Abrasive	Density (lb/ft3)
Al oxides	160
Sand	99
Steel	487

**Table 3 - Sand Flow Rate (FR1) Through Nozzle (lb/hr)**

Flow rate of Sand Through a Blasting Nozzle as a Function of Nozzle pressure and Internal Diameter

Internal diameter, in	Nozzle Pressure (psig)							
	30	40	50	60	70	80	90	100
1/8	28	35	42	49	55	63	70	77
3/16	65	80	94	107	122	135	149	165
1/4	109	138	168	195	221	255	280	309
5/16	205	247	292	354	377	420	462	507
3/8	285	355	417	477	540	600	657	720
7/16	385	472	560	645	755	820	905	940
1/2	503	615	725	835	945	1050	1160	1265
5/8	820	990	1170	1336	1510	1680	1850	2030
3/4	1140	1420	1670	1915	2160	2400	2630	2880
1	2030	2460	2900	3340	3780	4200	4640	5060

**Calculations**

*Adjusting Flow Rates for Different Abrasives and Nozzle Diameters*

Flow Rate (FR) = Abrasive flow rate (lb/hr) with internal nozzle diameter (ID)  
FR1 = Sand flow rate (lb/hr) with internal nozzle diameter (ID1) From Table 3 =  
D = Density of abrasive (lb/ft3) From Table 2 =  
D1 = Density of sand (lb/ft3) =  
ID = Actual nozzle internal diameter (in) =  
ID1 = Nozzle internal diameter (in) from Table 3 =

420
50
99
0.3125
0.3125

**Flow Rate (FR) (lb/hr) = 212.121 per nozzle**

**Uncontrolled Emissions (E, lb/hr)**

EF = emission factor (lb PM / lb abrasive) From Table 1 =  
FR = Flow Rate (lb/hr) =  
w = fraction of time of wet blasting =  
N = number of nozzles =

0.010
212.121
0 %
1

			PM10
<b>Uncontrolled PM Emissions =</b>	<b>2.12</b>	<b>lb/hr</b>	<b>1.48</b>
	<b>9.29</b>	<b>ton/yr</b>	<b>6.50</b>
<b>Controlled PM Emissions =</b>	<b>0.021</b>	<b>lb/hr</b>	<b>0.015</b>
	<b>0.093</b>	<b>ton/yr</b>	<b>0.065</b>

**METHODOLOGY**

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. 1, Section 3 "Abrasive Blasting" (1991 edition)

Ton/yr = lb/hr X 8760 hr/yr X ton/2000 lbs

Flow Rate (FR) (lb/hr) = FR1 x (ID/ID1)2 x (D/D1)

E = EF x FR x (1-w/200) x N

w should be entered in as a whole number (if w is 50%, enter 50)

**Appendix A: Emission Calculations**

**Natural Gas Fired Emergency Generator EU ID# (ENGG-1)**

**Company Name: Caterpillar Reman Powertrain Indiana, Inc.**

**Address City IN Zip: 751 International Drive, Franklin, IN 46131**

**Permit Number: 081-30269-00056**

**Reviewer: Jack Harmon**

<b>Emergency Generator</b>							
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Fuel:	Natural Gas	Rated Horse Power (hp):	80	Operating Hours:	500	MMBtu/hr:	0.204
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Pollutant	Emission Factor (lb/MMBtu)	Emission Factor (ng/J)	Emission Factor (ng/sec)	Emission Factor (g/hour)	Potential Emissions (tons/yr)	Potential Emissions (lb/hr)
PM	1.0E-02	4.3E+00	2.5E+05	9.1E-01	0.00	0.00
PM-10	1.0E-02	4.3E+00	2.5E+05	9.1E-01	0.00	0.00
NOX	4.1E+00	1.8E+03	1.0E+08	3.7E+02	0.20	0.82
CO	5.6E-01	2.4E+02	1.4E+07	5.1E+01	0.03	0.11
SOX	5.9E-04	2.5E-01	1.5E+04	5.4E-02	0.00	0.00
VOC	1.2E-01	5.1E+01	3.0E+06	1.1E+01	0.01	0.02
Benzene	8.98E-05	3.9E-02	2.3E+03	8.2E-03	0.0000	0.0000
Toluene	8.32E-05	3.6E-02	5.8E+04	2.1E-01	0.0001	0.0005
Xylene	3.75E-05	1.6E-02	2.6E+04	9.4E-02	0.0001	0.0002
Methanol	5.10E-04	2.2E-01	3.6E+05	1.3E+00	0.0007	0.0028
1,3 Butadiene	5.45E-05	2.3E-02	3.8E+04	1.4E-01	0.0001	0.0003
Formaldehyde	1.08E-02	4.6E+00	7.5E+06	2.7E+01	0.0149	0.0597
Acetaldehyde	1.71E-03	7.4E-01	1.2E+06	4.3E+00	0.0024	0.0094
Acrolein	1.05E-03	4.5E-01	7.3E+05	2.6E+00	0.0015	0.0058
n-Hexane	2.26E-04	9.7E-02	1.6E+05	5.7E-01	0.0003	0.0012
<b>Total HAPs</b>					<b>1.9996E-02</b>	<b>7.9985E-02</b>

**Methodology**

Emission Factors are from AP 42 (Supplement B, 10/96), Table 3.2-2,4 Stroke Lean Burn Engines

There were not emission factors for just natural gas so fuel assumption - Dual fuel was used which assumes 95% natural gas and 5% diesel fuel

1 lb/MMBtu = 430 ng/J (Table 3.4-3, AP 42)

Emission Factor (ng/J) = [Emission Factor (lb/MMBtu)] x 430

Emission Factor (ng/sec) = [hp x 736 (J/sec) x Emission Factor (ng/J)]

Emission Factor (g/hr) = [Emission Factor (ng/sec)] x 10<sup>-9</sup> (g/ng) x 3600 (sec/hr)

Potential Total Emission (tons/yr) = [Emission Factor (g/hr) x 500 (hr/yr)] / [453.53 (lb/g) x 2000 (lb/ton)]

**Appendix A: Emission Calculations**  
**FLAME SPRAY UNIT FS-01**  
**Company Name: Caterpillar Reman Powertrain Indiana, Inc.**  
**Address City IN Zip: 751 International Drive, Franklin, IN 46131**  
**Permit Number: 081-30269-00056**  
**Reviewer: Jack Harmon**

Material Sprayed	Particulate Matter Loss Factor (%)	Quantity Used/ Engine Block Sprayed (lbs)	Maximum Engine Blocks Per Year Throughput	Qty Material Used (lb/yr)	Uncontrolled PM/PM <sub>10</sub> (lb/yr)	Uncontrolled PM/PM <sub>10</sub> (ton/yr)	Uncontrolled Nickel Emissions (lb/hr)	Uncontrolled Nickel Emissions (ton/yr)	Uncontrolled Manganese (lb/hr)	Uncontrolled Manganese (ton/yr)
Nickel Aluminum Alloy	5.00	0.30	43,800.00	13,140.00	657.00	0.33	617.58	0.31	n/a	n/a
1080 Steel	5.00	5.00	43,800.00	219,000.00	10,950.00	5.48	n/a	n/a	109.50	0.05
<b>Total</b>						<b>5.80</b>		<b>0.31</b>		<b>0.05</b>

**Raw Materials:**

1080 Steel Powder flame sprayed inside engine cylinder  
Nickel/Aluminum Alloy Powder flame sprayed inside engine cylinder  
Engine Blocks (Bored Out) is the unit that is flame sprayed.

**Assumptions:**

Flame Spray Unit Has a 95% transfer efficiency (calculations assume all remaining 5% are emissions)  
Flame Spray Unit is controlled by a baghouse with a control efficiency of 99% or greater, but is not factored into emissions calculations  
Maximum Potential Throughput of 43,800 units/year  
Nickel Aluminum Max Usage of 0.3 lb/engine block sprayed  
1080 Steel Max Usage of 5.0 lb/engine block sprayed  
Ni/Al mixture is 94% Nickel by Wt.  
1080 Steel is 1% Manganese by Wt.

**Methodology:**

PM, PM10, PM2.5 emissions (lb/yr) = quantity used per unit x throughput units per year x PM loss factor  
PM, PM10, PM2.5 emissions (tons/yr) = emissions (lb/yr) / 2000 lb/ton  
Nickel emissions (lb/yr) = quantity used per unit x throughput units per year x (0.06) nickel emissions from Nickel aluminum alloy  
Nickel emissions (tons/yr) = Nickel emissions (lb/yr) / 2000 lb/ton  
Manganese emissions (lb/yr) = quantity used per unit x throughput units per year x (0.01) manganese emissions from 1080 Steel  
Manganese emissions (tons/yr) = manganese emissions (lb/yr) / 2000 lb/ton

**Appendix A: Emissions Calculations  
VOC and HAPs from Parts Washer (P008)**

**Company Name: Caterpillar Reman Powertrain Indiana, Inc.  
Address City IN Zip: 751 International Drive, Franklin, IN 46131  
Permit Number: 081-30269-00056  
Reviewer: Jack Harmon**

Product	Proposed Annual Usage *	Estimated Loss to Evaporation	Max Hours per Year	VOC	VOC	VOC	Glycol Ethers	
	gallons	%		lb/gal	lb/hr	ton/year	%	ton/yr
<b><u>16 Parts Washing Agent, as applied</u></b>								
Parco Cleaner HCS 10	9,360	2.0%	8760.00	0.00	0.00	0.00	0.00%	0.00
P3 Hot Stripper Additive 19	1,170	2.0%	8760.00	8.85	0.02	0.10	90.00%	0.09
Water	12,870	2.0%	8760.00	0.00	0.00	0.00	0.00%	0.00
<b><u>16 Parts Rinsing Agent, as applied</u></b>								
P3 Neutracare 5088	9,360	2.0%	8760.00	9.16	0.20	0.86	0.00%	0.00
Water	12,350	2.0%	8760.00	0.00	0.00	0.00	0.00%	0.00
<b>Parts Washer Totals</b>					<b>0.22</b>	<b>0.96</b>		<b>0.09</b>

**Methodology**

\* Annual Usage is based on % by volume per tank multiplied by 26 tank replacements per year. Washing Tank is 900 gallons. Rinse Tank is 500 gallons.

The potential to emit (PTE) calculations for the parts washer were provided by the source in the permit application. The calculations were verified by IDEM, OAQ using the EPA's TANKS Version 4.09b program. The PTE of VOC's was calculated at less than 1 ton per year and the PTE of total HAPs was negligible.

$$\text{VOC (lb/hr)} = \text{Annual Usage (gal/yr)} * (\% \text{ Evaporation}) * \text{VOC (lb/gal)} / 8760 \text{ (hrs/yr)}$$

$$\text{VOC (ton/year)} = \text{VOC (lb/hr)} * 8760 \text{ (hrs/yr)} * 1/2000 \text{ (ton/lbs)}$$

$$\text{HAP (ton/yr)} = (\% \text{ HAP}) * \text{VOC (lb/hr)} * 8760 \text{ (hrs/yr)} * 1/2000 \text{ (ton/lbs)}$$



# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

*We Protect Hoosiers and Our Environment.*

*Mitchell E. Daniels Jr.*  
**Governor**

*Thomas W. Easterly*  
**Commissioner**

100 North Senate Avenue  
Indianapolis, Indiana 46204  
(317) 232-8603  
Toll Free (800) 451-6027  
[www.idem.IN.gov](http://www.idem.IN.gov)

## SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

**TO:** Bill Hayes  
Caterpillar Reman Powertrain Indiana, Inc  
751 International Dr  
Franklin, IN 46131

**DATE:** April 27, 2011

**FROM:** Matt Stuckey, Branch Chief  
Permits Branch  
Office of Air Quality

**SUBJECT:** Final Decision  
FESOP  
081-30269-00056

Enclosed is the final decision and supporting materials for the air permit application referenced above. Please note that this packet contains the original, signed, permit documents.

The final decision is being sent to you because our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person.

A copy of the final decision and supporting materials has also been sent via standard mail to:  
Greg Towler (ERM)  
OAQ Permits Branch Interested Parties List

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at [jbrush@idem.IN.gov](mailto:jbrush@idem.IN.gov).

Final Applicant Cover letter.dot 11/30/07

# Mail Code 61-53

IDEM Staff	CDENNY 4/27/2011 Caterpillar Reman Powertrain Indiana, Inc 081-30269-00056 (final)		AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender		Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	

**CERTIFICATE OF MAILING ONLY**

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee	Remarks
1		Bill Hayes Caterpillar Reman Powertrain Indiana, Inc 751 International Dr Franklin IN 46131 (Source CAATS)										
2		Johnson County Commissioners 5 East Jefferson Franklin IN 46131 (Local Official)										
3		Franklin City Council and Mayors Office 55 W. Madison Street Franklin IN 46131 (Local Official)										
4		Johnson County Health Department 86 W. Court St, Courthouse Annex Franklin IN 46131-2345 (Health Department)										
5		Frederick & Iva Moore 6019 W 650 N Ligonier IN 46767 (Affected Party)										
6		Larry and Becky Bischoff 10979 North Smokey Row Road Mooresville IN 46158 (Affected Party)										
7		Mr. Greg Towler Environmental Resources Management (ERM) 11350 N. Meridian St., Suite 320 Carmel IN 46032 (Consultant)										
8												
9												
10												
11												
12												
13												
14												
15												

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