TO: Interested Parties / Applicant

DATE: January 22, 2014

RE: Cummins, Inc. – Seymour Engine Plant / 071-33555-00015

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 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, 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 and IC 13-15-6-1 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, 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.dot 6/13/13

David Wehrkamp
Cummins Inc., Seymour Engine Plant
800 East Third Street
Seymour, Indiana 47274

January 22, 2014

Re: 071-33555-00015
Significant Source Modification to
Part 70 Renewal No.: T071-30358-00015

Dear Mr. Wehrkamp,

Cummins Inc., Seymour Engine Plant was issued a Part 70 Operating Permit Renewal No. 071-30358-00015 on November 29, 2011 for a stationary internal combustion engine manufacturing plant located at 800 East Third Street, Seymour, IN 47274. An application to modify the source was received on August 21, 2013. Pursuant to the provisions of 326 IAC 2-7-10.5, a significant source modification to this permit is hereby approved as described in the attached Technical Support Document.

Pursuant to 326 IAC 2-7-10.5, the following emission unit is approved for construction at the source:

(t) One (1) production engine test cell, identified as HHP15, permitted in 2014, powered by diesel, biodiesel, or natural gas with a maximum output of 9,000 hp, equipped with an in-stack duct burner, with maximum capacity of 5.0 MMBtu/hr, selective catalytic reduction (SCR) for the control of NOx emissions, an oxidation catalyst for the control of CO emissions, and exhausting to stack HHP15.1.

The following construction conditions are applicable to the proposed modification:

General Construction Conditions

1. The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Quality (OAQ).

2. This approval to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

3. Effective Date of the Permit
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

Commenced Construction

4. Pursuant to 326 IAC 2-1.1-9 and 326 IAC 2-7-10.5(j), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.

6. Pursuant to 326 IAC 2-7-10.5(m), the emission units constructed under this approval shall not be placed into operation prior to revision of the source's Part 70 Operating Permit to incorporate the required operation conditions.

Approval to Construct

7. Pursuant to 326 IAC 2-7-10.5(h)(2), this significant source modification authorizes the construction of the new emission unit(s), when the significant source modification has been issued.

Pursuant to 326 IAC 2-7-12, operation of the new emission unit(s) is not approved until the significant permit modification has been issued. Operating conditions are incorporated into the Part 70 operating permit as a significant permit modification in accordance with 326 IAC 2-7-10.5(m)(2) and 326 IAC 2-7-12 (Permit Modification).

A copy of the permit is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/. 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.idem.in.gov

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 Deena Patton, of my staff, at 317-234-5400 or 1-800-451-6027, and ask for extension 4-5400.

Sincerely,

Tripurari Sinha

Tripurari P. Sinha, Ph. D., Section Chief
Permits Branch
Office of Air Quality

Attachments: Updated Permit, Technical Support Document and Appendix A

TS/dp

cc: File - Jackson County
Jackson County Health Department
U.S. EPA, Region V
Compliance and Enforcement Branch
IDEM Southeast Regional Office

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.
100 N. Senate Avenue • Indianapolis, IN 46204
(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

Significant Source Modification to a Part 70 Source

OFFICE OF AIR QUALITY

Cummins Inc., Seymour Engine Plant
800 E. Third Street
Seymour, IN 47274

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

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 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.
This permit also addresses certain new source review requirements for existing equipment and is intended to fulfill the new source review procedures pursuant to 326 IAC 2-7-10.5, applicable to those conditions.

Significant Source Modification No.: 071-33555-00015	
Issued by: Tripurari Sinha Tripurari Sinha, Ph. D., Section Chief, Permits Branch Office of Air Quality	Issuance Date: January 22, 2014

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Modification Commenced After July 23, 1984 [326 IAC 12] [40 CFR 60, Subpart Kb]

Attachment B: Standards of Performance for Stationary Compression Ignition Internal Combustion Engines [326 IAC 12] [40 CFR 60, Subpart IIII]

Attachment C: National Emissions Standard for Hazardous Air Pollutants for stationary reciprocating Internal Combustion Engines [40 CFR Part 63, Subpart ZZZZ] [326 IAC 20-82]

Attachment D: National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources [40 CFR Part 63, Subpart HHHHHH]

SECTION A SOURCE SUMMARY

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

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(14)] [326 IAC 2-7-1(22)]

The Permittee owns and operates a stationary internal combustion engine manufacturing plant, for which the testing and painting of the product is included.

Source Address:	800 East Third Street, Seymour, Indiana 47274
General Source Phone Number:	(812) 524-6325
SIC Code:	3519
County Location:	Jackson
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program Major Source under PSD; 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 2-7-4(c)(3)] [326 IAC 2-7-5(14)]

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

(a) One (1) paint spray line, identified as EU-01, consisting of the following equipment:

(1) Two (2) primer and topcoat spray booths, identified as EU-01G and EU-01H, approved for construction in 2011, each with a maximum capacity of 3 engines per hour, equipped with dry filters for overspray control, exhausting to stacks S9.1 and S9.2, for EU-01G and stacks S10.1 and S10.2 for EU-01H.

(2) One (1) offline spray booth, identified as EU-01I, approved for construction in 2011, with a maximum capacity of 3 engines per hour, equipped with dry filters for overspray control, exhausting to stacks S11.1 and S11.2.

(3) One (1) primer and topcoat spray booth, identified as EU-01J, approved for construction in 2011, with a maximum capacity of 0.5 engines per hour, equipped with dry filters for overspray control, exhausting to stacks S12.1 and S12.2.

(4) One (1) primer and topcoat spray booth, identified as EU-01K, approved for construction in 2011, with a maximum capacity of 0.5 engines per hour, equipped with dry filters for overspray control, exhausting to stacks S13.1 and S13.2.

(b) Six (6) production engine test cells, identified as EU-02A, constructed in 1978, consisting of the following equipment:

(1) Three (3) diesel-powered production engine test cells, identified as 801, 802, and 803, with maximum outputs of 1000, 1000 and 1650 hp respectively, with heat inputs of 6.41, 6.41 and 10.57 MMBtu/hr, respectively and exhausting to stacks 801.1 - 801.2, 802.1 - 802.2, and 803.1 and 803.2, respectively;

(2) Two (2) diesel-powered production engine test cells, identified as 804 and 805, with maximum outputs of 1650 hp, each, with heat input of 10.57 MMBtu/hr each and exhausting to stacks 804 and 805, respectively; and

(3) One (1) diesel-powered or natural gas-fired production engine test cell, identified as 808, with maximum output of 1650 hp when combusting diesel fuel or 600hp when combusting natural gas, with heat input of 10.57 MMBtu/hr when combusting diesel fuel or 4.1 MMBtu/hr when combusting natural gas and exhausting to stack 808.

(c) Ten (10) engineering engine test cells, identified as EU-02B, installed in 1978, consisting of the following equipment:

(1) Two (2) diesel or biodiesel-powered engineering engine test cells, identified as 806 and 807, may be alternatively powered by liquid propane or natural gas with maximum outputs of 1800 hp, each, when combusting diesel or biodiesel, or 1800hp, each, when combusting liquid propane or natural gas and exhausting to stacks 806 and 807, respectively;

(2) One (1) engineering test cell engine with duct burners, identified as HHP1, modified in 2011 powered by diesel, biodiesel, natural gas, natural gas diluted with CO_2, hydrogen or liquid propane with maximum output of 9000 hp, equipped with an in-stack duct burner with maximum capacity of 2.0 MMbtu/hr, selective catalytic reduction for the control of NOx emissions, an oxidation catalyst for the control of CO emissions, and exhausting to stack HHP1.1.

(3) One (1) diesel or biodiesel-powered engineering engine test cells, identified as HHP2, with maximum output of 4500 hp when combusting diesel or biodiesel, with heat input of 28.82 MMBtu/hr and exhausting to stack HHP2;

(4) One (1) diesel or biodiesel-powered engineering engine test cell, identified as HHP3, may be alternatively powered by liquid propane or natural gas, with maximum output of 4500 hp when combusting diesel or biodiesel and 4500hp when combusting liquid propane or natural gas, with heat input of 28.82 MMBtu/hr when combusting diesel/biodiesel or liquid propane/natural gas and exhausting to stacks HHP3.1 and HHP3.2;

(5) One (1) diesel or biodiesel-powered engineering test cell, identified as HHP5, may be alternatively powered by liquid propane or natural gas, with output of 2200 hp when combusting diesel or biodiesel or 600 hp when combusting liquid propane or natural gas, with heat input of 14.09 MMBtu/hr when combusting diesel or biodiesel or 4.10 when combusting liquid propane or natural gas and exhausting to stack HHP5.1 - HHP5.2;

(6) One (1) diesel or biodiesel-powered engine test pad 8 (PI), identified as PI, may be alternatively powered by liquid propane or natural gas, with maximum outputs of 3000 hp when combusting diesel or biodiesel or 2200 hp when combusting liquid propane or natural gas, with heat input of 19.22 MMBtu/hr when combusting diesel or biodiesel and 14.40 MMBtu/hr when combusting liquid propane or natural gas and exhausting to stacks PD8.1 and PD8.2;

(7) Two (2) diesel or biodiesel-powered engine test pad 10(Pl) and 11(Pl), identified as PI, may be alternatively powered by liquid propane or natural gas, with maximum outputs of 1850, each, when combusting diesel, or biodiesel, or 1850 hp, each when combusting liquid propane or natural gas, with heat input of 11.85 MMBtu/hr, each, when combusting diesel, or biodiesel or 12.70 MMBtu/hr, each when combusting liquid propane or natural gas and exhausting to stacks PD10.1 and PD11.1; and

(8) One (1) diesel or biodiesel-powered engineering engine test cell, identified as HHP4, may be alternatively powered by liquid propane or natural gas, with a maximum output of 2200 hp when combusting diesel or biodiesel and 2200hp when combusting liquid propane or natural gas and a heat input of 14.09 MMBtu per hour when combusting diesel or biodiesel or 14.40 MMBtu/hr when combusting liquid propane or natural gas and exhausting to stacks HHP4.1 and HHP4.2.

(d) One (1) diesel or biodiesel-powered engineering engine test cell Test Pad 9, identified as EU-02C, installed in 2005, may be alternatively powered by liquid propane or natural gas, with maximum outputs of 4500 hp when combusting diesel or biodiesel or 2200 hp when combusting liquid propane or natural gas, exhausting to stacks PD9.1 and PD9.2.

(e) One (1) engineering engine test cell, identified as HHP6, approved for construction in 2011, powered by diesel, biodiesel, natural gas, natural gas diluted with CO2, hydrogen or liquid propane with a maximum output of 9,000 hp, equipped to vent uncontrolled natural gas and liquid propane for a maximum time of 24 hours per year and equipped with an in-stack duct burner~~s~~, with maximum capacity of 2.0 MMBtu/hr, selective catalytic reduction for the control of NO_X emissions, an oxidation catalyst for the control of CO emissions, and exhausting to stack HHP6.1.

(f) One (1) engineering engine test cell, identified as HHP7, approved for construction in 2011, powered by diesel, biodiesel, natural gas, natural gas diluted with CO2, hydrogen or liquid propane with a maximum output of 9,000 hp, equipped with an in-stack duct burner, with maximum capacity of 2.0 MMBtu/hr, selective catalytic reduction for the control of NO_X emissions, an oxidation catalyst for the control of CO emissions, and exhausting to stack HHP7.1.

(g) One (1) engineering engine test cell, identified as HHP8, approved for construction in 2011, powered by diesel, biodiesel, natural gas, natural gas diluted with CO2, hydrogen or liquid propane with a maximum output of 9,000 hp, equipped with an in-stack duct burner, with maximum capacity of 2.0 MMBtu/hr, selective catalytic reduction for the control of NO_X emissions, an oxidation catalyst for the control of CO emissions, and exhausting to stack HHP8.1.

(h) One (1) engineering engine test cell, identified as HHP9, approved for construction in 2011, powered by diesel, biodiesel, natural gas, natural gas diluted with CO2, hydrogen or liquid propane with a maximum output of 9,000 hp, equipped with an in-stack duct burner, with maximum capacity of 2.0 MMBtu/hr, selective catalytic reduction for the control of NO_X emissions, an oxidation catalyst for the control of CO emissions, and exhausting to stack HHP9.1.

(i) One (1) engineering engine test cell, identified as HHP10, approved for construction in 2011, powered by diesel, biodiesel, natural gas, natural gas diluted with CO2, hydrogen or liquid propane with a maximum output of 9,000 hp, equipped to vent uncontrolled natural gas and liquid propane for a maximum time of 24 hours per year and equipped with an in-stack duct burner, with maximum capacity of 2.0 MMBtu/hr, selective catalytic reduction for the control of NO_X emissions, an oxidation catalyst for the control of CO emissions, and exhausting to stack HHP10.1.

(j) One (1) production engine test cell, identified as HHP11, approved for construction in 2011, powered by diesel, biodiesel, natural gas, natural gas diluted with CO2, hydrogen or liquid propane with a maximum output of 9,000 hp, equipped with an in-stack duct burner, with maximum capacity of 2.0 MMBtu/hr, selective catalytic reduction for the control of NO_X emissions, an oxidation catalyst for the control of CO emissions, and exhausting to stack HHP11.1.

(k) One (1) production engine test cell, identified as HHP12, approved for construction in 2011, powered by diesel, biodiesel, natural gas, natural gas diluted with CO2, hydrogen or liquid propane with a maximum output of 9,000 hp, equipped with an in-stack duct burner, with maximum capacity of 2.0 MMBtu/hr, selective catalytic reduction for the control of NO_X emissions, an oxidation catalyst for the control of CO emissions, and exhausting to stack HHP12.1.

(l) One (1) production engine test cell, identified as HHP13, approved for construction in 2011, powered by diesel, biodiesel, natural gas, natural gas diluted with CO2, hydrogen or liquid propane with a maximum output of 9,000 hp, equipped with an in-stack duct burner, with maximum capacity of 2.0 MMBtu/hr, selective catalytic reduction for the control of NO_X emissions, an oxidation catalyst for the control of CO emissions, and exhausting to stack HHP13.1.

(m) One (1) production engine test cell, identified as HHP14, approved for construction in 2011, powered by diesel, biodiesel, natural gas, natural gas diluted with CO2, hydrogen or liquid propane with a maximum output of 9,000 hp, equipped with an in-stack duct burner, with maximum capacity of 2.0 MMBtu/hr, selective catalytic reduction for the control of NO_X emissions, an oxidation catalyst for the control of CO emissions, and exhausting to stack HHP14.1.

(n) Nine (9) natural gas fired boilers, identified as EU03C, EU03D, EU03L, EU03M, EU03S, EU03T EU03U and EU03V, approved for construction in 2011, each having a maximum capacity of 2.0 MMBtu/hr and EU03X having a maximum capacity of 4.2 MMBtu/hr.

(o) Four (4) natural gas fired boilers, approved for construction in 2012, consisting of the following:

(1) Two (2) boilers, identified as EU03I, and EU03J, each with a maximum heat input capacity of 4.0 MMBtu/hr.

(2) One (1) boiler, identified as EU03K, with a maximum heat input capacity of 3.2 MMBtu/hr.

(3) One (1) boiler, identified as EU03W, with a maximum heat input capacity of 5.0 MMBtu/hr.

(p) Nine (9) natural gas fired boilers, approved for construction in 2012, each equipped with Low NOx burners for NOx reduction, consisting of the following:

(1) Five (5) boilers, identified as EU03E, EU03F, EU03G, EU03H, and EU03R, each rated at a maximum heat input capacity of 3.0 MMBtu/hr.

(2) Four (4) boilers, identified as EU03N, EU03O, EU03P, and EU03Q, each rated at a maximum heat input capacity of 3.5 MMBtu/hr.

(q) Natural gas-fired combustion sources, approved for construction in 2012, consisting of the following:

(1) Four (4) direct fired AHU, rated at 0.47 million British thermal units per hour,

each.

(2) One (1) direct fired AHU, rated at 0.80 million British thermal units per hour.

(3) One (1) direct fired AHU, rated at 0.67 million British thermal units per hour.

(4) Two (2) direct fired AHU, rated at 0.30 million British thermal units per hour, each.

(5) Two (2) direct fired AHU, rated at 2.72 million British thermal units per hour, each.

(6) One (1) direct fired AHU, rated at 2.59 million British thermal units per hour.

(7) Two (2) direct fired AHU, rated at 3.27 million British thermal units per hour, each equipped with Low NOx burner.

(8) Two (2) dry and curing combustion units, rated at 2.40 million British thermal units per hour, each.

(9) Two (2) dry and curing combustion units, rated at 1.76 million British thermal units per hour, each, equipped with Low NOx burner.

(10) Eight (8) unit heaters, rated at 0.15 million British thermal units per hour, each.

(11) Nine (9) unit heaters, rated at 0.18 million British thermal units per hour, each

(r) Natural gas-fired combustion sources, approved for construction in 2013, consisting of the following:

(1) Seventeen (17) natural gas direct-fired air handling units, permitted in 2013, with a cumulative total heat input capacity of 25.5 mmBTU/hr.

(2) One (1) natural gas-fired unit heater, permitted in 2013, with a heat input capacity of 0.4 mmBTU/hr.

(s) One (1) Hedgehog Block Line Facility, approved for construction in 2013, and consisting of the following units:

(1) Four (4) engine block boring and machining operations, with a max operation of 3.0 engine blocks per day, using a demister as control, and exhausting indoors.

(2) One (1) engine block washing operation, with a max operation of 3.0 engine blocks per day, using a demister as control, and exhausting to BLW 1.1

(3) One (1) emergency diesel generator, identified as emergency generator, with a rating of 1482 hp, and exhausting outdoors;

(4) One (1) emergency diesel fire pump, identified as fire pump, with a rating of 175 hp, and exhausting outdoors;

(5) Fourteen (14) natural gas combustion units, consisting of the following:

(A) Two (2) direct fired roof top units, identified as RTU-1 and RTU-2, each with a heat capacity of 3.00 MMBtu/hr, each using no controls, and each exhausting outdoors;

(B) One (1) Indirect fired air handler unit, identified as AHU-1, with a heat capacity of 0.25 MMBtu/hr, using no controls, and exhausting outdoors;

(C) Six (6) Unit heaters, identified as UH-1 through UH-6, each with a heat capacity of 0.20 MMBtu/hr, each using no controls, and each exhausting outdoors;

(D) Five (5) Dock heaters, identified as DH-1 through DH-5, each with a heat capacity of 1.00 MMBtu/hr, each using no controls, and each exhausting outdoors.

(t) One (1) production engine test cell, identified as HHP15, permitted in 2014, powered by diesel, biodiesel, or natural gas with a maximum output of 9,000 hp, equipped with an in-stack duct burner, with maximum capacity of 5.0 MMBtu/hr, selective catalytic reduction (SCR) for the control of NOx emissions, an oxidation catalyst for the control of CO emissions, and exhausting to stack HHP15.1.

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(14)]

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

(a) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6. [326 IAC 8-3];

(b) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment. [326 IAC 6-3];

(c) Sources that have the potential to emit less than five (5) tons per year of particulate matter (PM) (326 IAC 2-1.1-3(e)(1)(a));

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

(d) One (1) 25,000 gallon No.2 diesel storage tank, constructed in 1998.[326 IAC 12] [40 CFR 60, Subpart Kb];

(e) One (1) 20,000 gallon No.2 diesel storage tank, constructed in 2011.[326 IAC 12] [40 CFR 60, Subpart Kb];

(f) One (1) 100,000 gallon No 2 diesel storage tank, approved for construction in 2011 [326 IAC 12] [40 CFR 60 Subpart Kb];

(g) One (1) emergency diesel powered generator permitted in 2011, with maximum output capacity of 1490 horse power. [Under 40 CFR 60, Subpart IIII, the emergency generator is considered a new affected source.][Under 40 CFR 63, Subpart ZZZZ, the emergency generator is considered a new affected source.].

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

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

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

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

SECTION B GENERAL CONDITIONS

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

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

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

(a) The Part 70 Operating Permit Renewal, T071-30358-00015, is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. 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, including any permit shield provided in 326 IAC 2-7-15, until the renewal permit has been issued or denied.

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

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

(a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or

(b) the emission unit to which the condition pertains permanently ceases operation.

B.4 Enforceability [326 IAC 2-7-7] [IC 13-17-12]

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

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

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

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

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

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

(a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.

(b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

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

(a) A certification required by this permit meets the requirements of 326 IAC 2-7-6(1) if:

(1) it contains a certification by a "responsible official" as defined by 326 IAC 2-7-1(34), and

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

B.9 Annual Compliance Certification [326 IAC 2-7-6(5)]

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

Indiana Department of Environmental Management
Compliance and Enforcement Branch, 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, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

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

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

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

(2) The compliance status;

(3) Whether compliance was continuous or intermittent;

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

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

The submittal by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

B.10 Preventive Maintenance Plan [326 IAC 2-7-5(12)] [326 IAC 1-6-3]

(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 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

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 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(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.11 Emergency Provisions [326 IAC 2-7-16]

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

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

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

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

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

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

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance and Enforcement Branch), or
Telephone Number: 317-233-0178 (ask for Office of Air Quality, Compliance and Enforcement Branch)
Facsimile Number: 317-233-6865

(5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

Indiana Department of Environmental Management
Compliance 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 2-7-5(3)(C)(ii) and must contain the following:

(A) A description of the emergency;

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

(C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

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

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

(d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.

(e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4(c)(8) be revised in response to an emergency.

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

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

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

(a) Pursuant to 326 IAC 2-7-15, the Permittee has been granted a permit shield. The permit shield provides that compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that either the applicable requirements are included and specifically identified in this permit or the permit contains an explicit determination or concise summary of a determination that other specifically identified requirements are not applicable. The Indiana statutes from IC 13 and rules from 326 IAC, referenced in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a Part 70 permit under 326 IAC 2-7 or for applicable requirements for which a permit shield has been granted.

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

(b) If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement that applied to the source on the date of permit issuance, IDEM, OAQ, shall immediately take steps to reopen and revise this permit and issue a compliance order to the Permittee to ensure expeditious compliance with the applicable requirement until the permit is reissued. The permit shield shall continue in effect so long as the Permittee is in compliance with the compliance order.

(c) No permit shield shall apply to any permit term or condition that is determined after issuance of this permit to have been based on erroneous information supplied in the permit application. Erroneous information means information that the Permittee knew to be false, or in the exercise of reasonable care should have been known to be false, at the time the information was submitted.

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

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

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

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

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

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

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

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

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

(a) All terms and conditions of permits established prior to T071-30358-00015 and issued pursuant to permitting programs approved into the state implementation plan have been either:

(1) incorporated as originally stated,

(2) revised under 326 IAC 2-7-10.5, or

(3) deleted under 326 IAC 2-7-10.5.

(b) Provided that all terms and conditions are accurately reflected in this permit, all previous registrations and permits are superseded by this Part 70 operating permit.

B.14 Termination of Right to Operate [326 IAC 2-7-10] [326 IAC 2-7-4(a)]

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

B.15 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-7-5(6)(C)] [326 IAC 2-7-8(a)] [326 IAC 2-7-9]

(a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Part 70 Operating Permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-7-5(6)(C)] The notification by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

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

(1) That this permit contains a material mistake.

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

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

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

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

B.16 Permit Renewal [326 IAC 2-7-3] [326 IAC 2-7-4] [326 IAC 2-7-8(e)]

(a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-7-4. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

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 IGCN 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 2-7 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified, pursuant to 326 IAC 2-7-4(a)(2)(D), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.17 Permit Amendment or Modification [326 IAC 2-7-11] [326 IAC 2-7-12]

(a) Permit amendments and modifications are governed by the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this permit.

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

Indiana Department of Environmental Management
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 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

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

B.18 Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-7-5(8)] [326 IAC 2-7-12(b)(2)]

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

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

B.19 Operational Flexibility [326 IAC 2-7-20] [326 IAC 2-7-10.5]

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

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

(2) Any preconstruction approval required by 326 IAC 2-7-10.5 has been obtained;

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

(4) The Permittee notifies the:

Indiana Department of Environmental Management
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 2-7-20(b) or (c). The Permittee shall make such records available, upon reasonable request, for public review.

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

(b) The Permittee may make Section 502(b)(10) of the Clean Air Act changes (this term is defined at 326 IAC 2-7-1(36)) without a permit revision, subject to the constraint of 326 IAC 2-7-20(a). For each such Section 502(b)(10) of the Clean Air Act change, the required written notification shall include the following:

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

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

(3) Any change in emissions; and

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

The notification which shall be submitted is not considered an application form, report or compliance certification. Therefore, the notification by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

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

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

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

B.20 Source Modification Requirement [326 IAC 2-7-10.5]

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

B.21 Inspection and Entry [326 IAC 2-7-6] [IC 13-14-2-2] [IC 13-30-3-1] [IC 13-17-3-2]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee’s right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

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

(b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy any records that must be kept under the conditions of this permit;

(c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

(d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and

(e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.22 Transfer of Ownership or Operational Control [326 IAC 2-7-11]

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

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

Indiana Department of Environmental Management
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 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

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

B.23 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)] [326 IAC 2-1.1-7]

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

(b) Except as provided in 326 IAC 2-7-19(e), failure to pay may result in administrative enforcement action or revocation of this permit.

(c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.24 Credible Evidence [326 IAC 2-7-5(3)] [326 IAC 2-7-6] [62 FR 8314] [326 IAC 1-1-6]

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

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

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

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

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

C.2 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-1 (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.3 Open Burning [326 IAC 4-1] [IC 13-17-9]

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1.

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

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.5 Stack Height [326 IAC 1-7]

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

C.6 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

The Permittee shall comply with the applicable requirements of 326 IAC 14-10, 326 IAC 18, and 40 CFR 61.140.

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

C.7 Performance Testing [326 IAC 3-6]

(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 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

C.8 Compliance Requirements [326 IAC 2-1.1-11]

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

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

C.9 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)] [40 CFR 64]

(a) For new units:

Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units shall be implemented on and after the date of initial start-up.

(b) **For existing units:**

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 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 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 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(c) For monitoring required by CAM, at all times, the Permittee shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.

(d) For monitoring required by CAM, except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the Permittee shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

C.10 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

(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. The analog instrument shall be capable of measuring values outside of the normal range.

(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 2-7-5] [326 IAC 2-7-6]

C.11 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

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

(a) The Permittee shall 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.12 Risk Management Plan [326 IAC 2-7-5(11)] [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.13 Response to Excursions or Exceedances [40 CFR 64][326 IAC 3-8][326 IAC 2-7-5] [326 IAC 2-7-6]

(I) 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.

(II)

(a) CAM Response to excursions or exceedances.

(1) Upon detecting an excursion or exceedance, subject to CAM, the Permittee shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.

(2) 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, monitoring

results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.

(b) If the Permittee identifies a failure to achieve compliance with an emission limitation, subject to CAM, or standard, subject to CAM, for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the Permittee shall promptly notify the IDEM, OAQ and, if necessary, submit a proposed significant permit modification to this permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

(c) Based on the results of a determination made under paragraph (II)(a)(2) of this condition, the EPA or IDEM, OAQ may require the Permittee to develop and implement a QIP. The Permittee shall develop and implement a QIP if notified to in writing by the EPA or IDEM, OAQ.

(d) Elements of a QIP:
The Permittee shall maintain a written QIP, if required, and have it available for inspection. The plan shall conform to 40 CFR 64.8 b (2).

(e) If a QIP is required, the Permittee shall develop and implement a QIP as expeditiously as practicable and shall notify the IDEM, OAQ if the period for completing the improvements contained in the QIP exceeds 180 days from the date on which the need to implement the QIP was determined.

(f) Following implementation of a QIP, upon any subsequent determination pursuant to paragraph (II)(a)(2) of this condition the EPA or the IDEM, OAQ may require that the Permittee make reasonable changes to the QIP if the QIP is found to have:
(1) Failed to address the cause of the control device performance problems; or
(2) Failed to provide adequate procedures for correcting control device performance problems as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.

(g) Implementation of a QIP shall not excuse the Permittee from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the Act.

(h) CAM recordkeeping requirements.
(1) The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to paragraph (II)(a)(2) of this condition and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained under this condition (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions). Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by this condition.

(2) Instead of paper records, the owner or operator may maintain records on

alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements.

C.14 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall 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 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

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

C.15 Emission Statement [326 IAC 2-7-5(3)(C)(iii)] [326 IAC 2-7-5(7)] [326 IAC 2-7-19(c)] [326 IAC 2-6]

Pursuant to 326 IAC 2-6-3(a)(1), the Permittee shall submit by July 1 of each year an emission statement covering the previous calendar year. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4(c) and shall meet the following requirements:

(a) Indicate estimated actual emissions of all pollutants listed in 326 IAC 2-6-4(a);

(b) Indicate estimated actual emissions of regulated pollutants as defined by 326 IAC 2-7-1 (32) ("Regulated pollutant, which is used only for purposes of Section 19 of this rule") from the source, for purpose of fee assessment.

The statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Quality
100 North Senate Avenue
MC 61-50 IGCN 1003
Indianapolis, Indiana 46204-2251

The emission statement does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

C.16 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6] [326 IAC 2-2] [326 IAC 2-3]

(a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. Support information includes the following, where applicable
(AA) All calibration and maintenance records.
(BB) All original strip chart recordings for continuous monitoring instrumentation.

(CC) Copies of all reports required by the Part 70 permit.

Records of required monitoring information include the following, where applicable
(AA) The date, place, as defined in this permit, and time of sampling or measurements.
(BB) The dates analyses were performed.
(CC) The company or entity that performed the analyses.
(DD) The analytical techniques or methods used.
(EE) The results of such analyses.
(FF) The operating conditions as existing at the time of sampling or measurement.

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) If there is a reasonable possibility (as defined in 326 IAC 2-2-8 (b)(6)(A), 326 IAC 2-2-8 (b)(6)(B), 326 IAC 2-3-2 (l)(6)(A), and/or 326 IAC 2-3-2 (l)(6)(B)) that a “project” (as defined in 326 IAC 2-2-1(oo) and/or 326 IAC 2-3-1(jj)) at an existing emissions unit, other than projects at a source with a Plantwide Applicability Limitation (PAL), which is not part of a “major modification” (as defined in 326 IAC 2-2-1(dd) and/or 326 IAC 2-3-1(y)) may result in significant emissions increase and the Permittee elects to utilize the “projected actual emissions” (as defined in 326 IAC 2-2-1(pp) and/or 326 IAC 2-3-1(kk)), the Permittee shall comply with following:

(1) Before beginning actual construction of the "project" (as defined in 326 IAC 2-2-1(oo) and/or 326 IAC 2-3-1(jj)) at an existing emissions unit, document and maintain the following records:

(A) A description of the project.

(B) Identification of any emissions unit whose emissions of a regulated new source review pollutant could be affected by the project.

(C) A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including:

(i) Baseline actual emissions;

(ii) Projected actual emissions;

(iii) Amount of emissions excluded under section 326 IAC 2-2-1(pp)(2)(A)(iii) and/or 326 IAC 2-3-1(kk)(2)(A)(iii); and

(iv) An explanation for why the amount was excluded, and any netting calculations, if applicable.

(d) If there is a reasonable possibility (326 IAC 2-2-8 (b)(6)(A) and/or 326 IAC 2-3-2 (l)(6)(A)) that a “project” (as defined in 326 IAC 2-2-1(oo) and/or 326 IAC 2-3-1(jj)) at an existing emissions unit, other than projects at a source with a Plantwide Applicability Limitation

(PAL), which is not part of a “major modification” (as defined in 326 IAC 2-2-1(dd) and/or 326 IAC 2-3-1(y)) may result in significant emissions increase and the Permittee elects to utilize the “projected actual emissions” (as defined in 326 IAC 2-2-1(pp) and/or 326 IAC 2-3-1(kk)), the Permittee shall comply with following:

(1) Monitor the emissions of any regulated NSR pollutant that could increase as a result of the project and that is emitted by any existing emissions unit identified in (1)(B) above; and

(2) Calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of five (5) years following resumption of regular operations after the change, or for a period of ten (10) years following resumption of regular operations after the change if the project increases the design capacity of or the potential to emit that regulated NSR pollutant at the emissions unit.

C.17 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11] [326 IAC 2-2] [326 IAC 2-3] [40 CFR 64][326 IAC 3-8]

(a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Proper notice submittal under Section B –Emergency Provisions satisfies the reporting requirements of this paragraph. 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 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

On and after the date by which the Permittee must use monitoring that meets the requirements of 40 CFR Part 64 and 326 IAC 3-8, the Permittee shall submit CAM reports to the IDEM, OAQ.

A report for monitoring under 40 CFR Part 64 and 326 IAC 3-8 shall include, at a minimum, the information required under paragraph (a) of this condition and the following information, as applicable:

(1) Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;

(2) Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and

(3) A description of the actions taken to implement a QIP during the reporting period as specified in Section C-Response to Excursions or Exceedances. Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

The Permittee may combine the Quarterly Deviation and Compliance Monitoring Report and a report pursuant to 40 CFR 64 and 326 IAC 3-8.

(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) The first report shall cover the period commencing on the date of issuance of this permit or the date of initial start-up, whichever is later, and ending on the last day of the reporting period. 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.

(e) If the Permittee is required to comply with the recordkeeping provisions of (d) in Section C - General Record Keeping Requirements for any "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(ll) at an existing emissions unit, and the project meets the following criteria, then the Permittee shall submit a report to IDEM, OAQ:

(1) The annual emissions, in tons per year, from the project identified in (c)(1) in Section C - General Record Keeping Requirements exceed the baseline actual emissions, as documented and maintained under Section C - General Record Keeping Requirements (c)(1)(C)(i), by a significant amount, as defined in 326 IAC 2-2-1(xx) and/or 326 IAC 2-3-1(qq), for that regulated NSR pollutant, and

(2) The emissions differ from the preconstruction projection as documented and maintained under Section C - General Record Keeping Requirements (c)(1)(C)(ii).

(f) The report for project at an existing emissions unit shall be submitted within sixty (60) days after the end of the year and contain the following:

(1) The name, address, and telephone number of the major stationary source.

(2) The annual emissions calculated in accordance with (d)(1) and (2) in Section C - General Record Keeping Requirements.

(3) The emissions calculated under the actual-to-projected actual test stated in 326 IAC 2-2-2(d)(3) and/or 326 IAC 2-3-2 (c) (3).

(4) Any other information that the Permittee deems fit to include in this report.

Reports required in this part shall be submitted to:

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

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

Stratospheric Ozone Protection

C.18 Compliance with 40 CFR 82 and 326 IAC 22-1

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

SECTION D.1 EMISSION UNIT OPERATION CONDITIONS

Emission Unit Description [326 IAC 2-7-5(14)]:

(a1) One (1) paint spray line, identified as EU-01, consisting of the following equipment:

(1) Two (2) primer and topcoat spray booths, identified as EU-01G and EU-01H, approved for construction in 2011, each with a maximum capacity of 3 engines per hour, equipped with dry filters for overspray control, exhausting to stacks S9.1 and S9.2, for EU-01G and stacks S10.1 and S10.2 for EU-01H.

(2) One (1) offline spray booth, identified as EU-01I, approved for construction in 2011, with a maximum capacity of 3 engines per hour, equipped with dry filters for overspray control, exhausting to stacks S11.1 and S11.2.

(3) One (1) primer and topcoat spray booth, identified as EU-01J, approved for construction in 2011, with a maximum capacity of 0.5 engines per hour, equipped with dry filters for overspray control, exhausting to stacks S12.1 and S12.2.

(4) One (1) primer and topcoat spray booth, identified as EU-01K, approved for construction in 2011, with a maximum capacity of 0.5 engines per hour, equipped with dry filters for overspray control, exhausting to stacks S13.1 and S13.2.

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

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

D.1.1 Particulate Emission Limitations Work Practices, and Control Technologies [326 IAC 6-3-2(d)]

Pursuant to 326 IAC 6-3-2(d) (Particulate emission limitations, work practices, and control technologies), the particulate matter from EU-01G, EU-01H, EU-01I, EU-01J and EU-01K shall be controlled by a dry filter, and the Permittee shall operate the control device in accordance with the manufacturer's specifications.

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

Pursuant to 326 IAC 8-2-9, the volatile organic compound (VOC) emissions from the new paint lines shall not exceed four and three-tenths (4.3) pounds per gallon (excluding water) for clear coatings, three and five-tenths (3.5) pounds per gallon (excluding water) for coatings that are air dried or force warm air dried, three and five-tenths (3.5) pounds per gallon (excluding water) for extreme performance coatings, and three (3.0) pounds per gallon (excluding water) for all other coatings.

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

Pursuant to 326 IAC 8-2-9(f), work practices shall be used to minimize VOC emissions from mixing operations, storage tanks, and other containers, and handling operations for coatings, thinners, cleaning materials, and waste materials. Work practices shall include, but not be limited to, the following:

(1) Store all VOC containing coatings, thinners, coating related waste, and cleaning materials in closed containers.

(2) Ensure that mixing and storage containers used for VOC containing coatings, thinners, coating related waste, and cleaning materials are kept closed at all times except when depositing or removing these materials.

(3) Minimize spills of VOC containing coatings, thinners, coating related waste, and cleaning materials.

(4) Convey VOC containing coatings, thinners, coating related waste, and cleaning materials from one (1) location to another in closed containers or pipes.

(5) Minimize VOC emissions from the cleaning of application, storage, mixing, and conveying equipment by ensuring that equipment cleaning is performed without atomizing the cleaning solvent and all spent solvent is captured in closed containers.

D.1.4 Hazardous Air Pollutants (HAPs) Minor Limits [40 CFR 63]

(a) The amount of single HAP delivered to the coating applicators (EU-01G, EU-01H, EU-01I, EU-01J and EU-01K) from coatings, and dilution and cleaning solvents used in the paint spray line identified as EU-01 and the amount of HAP from twenty five (25) engine test cells, identified as 801-808, HHP1-HHP10, 8(PI), 9(PI), 10(PI), EU-02C, and Production lines HHP11 - HHP14 (listed in Section D.2) shall be limited to less than 9.5 tons per twelve (12) consecutive month period for any single HAP with compliance determined at the end of each month period.

(b) The amount of total HAP delivered to the coating applicators (EU-01G, EU-01H, EU-01I, EU-01J and EU-01K) from coatings, and dilution and cleaning solvents used in the paint spray line identified as EU-01 and the amount of HAP from twenty five (25) engine test cells, identified as 801-808, HHP1-HHP10, 8(PI), 9(PI), 10(PI), EU-02C, and Production lines HHP11 - HHP14 (listed in Section D.2) less than twenty-four (24) tons per twelve (12) consecutive month period for total HAP with compliance determined at the end of each month period.

Compliance with these limits, the limits in Condition D.2.2, and the potential HAP emissions from the other emission units at this source, will limit the source-wide emissions of HAPs to less than ten (10) tons of a single HAP and less than twenty-five (25) tons of a combination of HAPs per twelve (12) consecutive month period and render the source an area source of HAPs.

D.1.5 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan is required for each of the five (5) spray booths, EU-01G, EU-01H, EU-01I, EU-01J and EU-01K, and the dry filters. Section B – Preventive Maintenance Plan contains the Permittee’s obligation with regard to preventive maintenance plans.

Compliance Determination Requirements [326 IAC 2-7-5(1)] [326 IAC 2-7-6(1)] [40 CFR 64]

D.1.6 Particulate Control [326 IAC 2-7-6(6)]

The dry filters for particulate control shall be in operation and controlling particulate, at all times when spray booths EU-01G, EU-01H, EU-01I, EU-01J and EU-01K are in operation.

D.1.7 Volatile Organic Compounds (VOC) [326 IAC 8-1-2] [326 IAC 8-1-4]

Compliance with the VOC content 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) by preparing or obtaining from the manufacturer the copies of the “as supplied” and “as applied” VOC data sheets. IDEM, OAQ (and local agency if applicable) reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

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

D.1.8 Monitoring

(a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the surface coating stacks (S9, S10, S11, S12 and S13) while one (1) or more of the booths are in operation. If a condition exists which should result in a response step, the Permittee shall take reasonable response steps.

(b) Monthly inspections shall be performed of the coating emissions from the stacks and the presence of overspray on the rooftops and the nearby ground. When there is a noticeable change in overspray emissions, or evidence of overspray emissions, the Permittee shall take reasonable response steps.

(c) Failure to take response steps shall be considered a deviation of this permit. Section C – Response to Excursions and Exceedances contains the Permittee's obligation with regard to response to excursions and exceedances.

(d) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

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

D.1.9 Record Keeping Requirements

(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 monthly 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 a 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 (dilution) and those used as cleanup solvent.

(3) The monthly cleanup solvent usage; and

(4) The total VOC usage for each month.

(b) To document the compliance status with condition D.1.4, the Permittee shall maintain records in accordance with (1) through (3) below. Records maintained for (1) through (3) shall be taken monthly and shall be complete and sufficient to establish compliance with the HAP emission limits established in condition D.1.4.

(1) The amount and HAP content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;

(2) The total coating usage for each month; and

(3) The cleanup or dilution solvent usage for each month.

(c) To document the compliance status with conditions D.1.8 - Monitoring, the Permittee shall maintain a log of weekly overspray observations, daily and monthly inspections, and those additional inspections prescribed by the Preventive Maintenance Plan.

(d) Section C – General Record Keeping Requirements contains the Permittee's obligation with regard to record keeping.

D.1.10 Reporting Requirements

A quarterly summary of the information to document the compliance status with conditions D.1.2 and D.1.4 shall be submitted using the reporting forms located at the end of this permit, or their equivalent, not later than thirty (30) days following the end of each calendar quarter. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34). Section C - General Reporting Requirements contains the Permittee's obligations with regard to the reporting required by this condition.

SECTION D.2 EMISSION UNIT OPERATION CONDITIONS

Emissions Unit Description [326 IAC 2-7-5(14)]::

(b) Six (6) production engine test cells, identified as EU-02A, constructed in 1978, consisting of the following equipment:

(1) Three (3) diesel-powered production engine test cells, identified as 801, 802, and 803, with maximum outputs of 1000, 1000 and 1650 hp respectively, with heat inputs of 6.41, 6.41 and 10.57 MMBtu/hr, respectively and exhausting to stacks 801.1 - 801.2, 802.1 - 802.2, and 803.1 and 803.2, respectively;

(2) Two (2) diesel-powered production engine test cells, identified as 804 and 805, with maximum outputs of 1650 hp, each, with heat input of 10.57 MMBtu/hr each and exhausting to stacks 804 and 805, respectively; and

(3) One (1) diesel-powered or natural gas-fired production engine test cell, identified as 808, with maximum output of 1650 hp when combusting diesel fuel or 600hp when combusting natural gas, with heat input of 10.57 MMBtu/hr when combusting diesel fuel or 4.1 MMBtu/hr when combusting natural gas and exhausting to stack 808.

(c) Ten (10) engineering engine test cells, identified as EU-02B, installed in 1978 and modified in 2009, consisting of the following equipment:

(1) Two (2) diesel or biodiesel-powered engineering engine test cells, identified as 806 and 807, may be alternatively powered by liquid propane or natural gas with maximum outputs of 1800 hp, each, when combusting diesel or biodiesel, or 1800hp, each, when combusting liquid propane or natural gas and exhausting to stacks 806 and 807, respectively;

(2) One (1) engineering test cell engine with duct burners, identified as HHP1, modified in 2011 powered by diesel, biodiesel natural gas, natural gas diluted with CO2, hydrogen or liquid propane with maximum output of 9000 hp, equipped with an in-stack duct burner, with maximum capacity of 2.0 MMbtu/hr, selective catalytic reduction for the control of NOx emissions, an oxidation catalyst for the control of CO emissions, and exhausting to stack HHP1.1;

(3) One (1) diesel or biodiesel-powered engineering engine test cell, identified as HHP2, with maximum output of 4500 hp when combusting diesel or biodiesel, with heat input of 28.82 MMBtu/hr and exhausting to stack HHP2;

(4) One (1) diesel or biodiesel-powered engineering engine test cell, identified as HHP3, may be alternatively powered by liquid propane or natural gas, with maximum output of 4500 hp when combusting diesel or biodiesel and 4500hp when combusting liquid propane or natural gas, with heat input of 28.82 MMBtu/hr when combusting diesel/biodiesel or liquid propane/natural gas and exhausting to stacks HHP3.1 and HHP3.2;

(5) One (1) diesel or biodiesel-powered engineering test cell, identified as HHP5, may be alternatively powered by liquid propane or natural gas, with output of 2200 hp when combusting diesel or biodiesel or 600 hp when combusting liquid propane or natural gas, with heat input of 14.09 MMBtu/hr when combusting diesel or biodiesel or 4.10 when combusting liquid propane or natural gas and exhausting to stack HHP5.1 - HHP5.2;

(6) One (1) diesel or biodiesel-powered engine Test Pad 8 (Pl), identified as PI, may be alternatively powered by liquid propane or natural gas, with maximum outputs of 3000 hp when combusting diesel or biodiesel or 2200 hp when combusting liquid propane or natural gas, with heat input of 19.22 MMBtu/hr when combusting diesel or biodiesel and 14.40 MMBtu/hr when combusting liquid propane or natural gas and exhausting to stacks PD8.1 and PD8.2;

(7) Two (2) diesel or biodiesel-powered engine Test Pad 10(Pl) and Test Pad 11(Pl), identified as PI, may be alternatively powered by liquid propane or natural gas, with maximum outputs of 1850, each, when combusting diesel, or biodiesel, or 1850 hp, each when combusting liquid propane or natural gas, with heat input of 11.85 MMBtu/hr, each, when combusting diesel, or biodiesel or 12.70 MMBtu/hr, each when combusting liquid propane or natural gas and exhausting to stacks PD10.1 and PD11.1; and

(8) One (1) diesel or biodiesel-powered engineering engine test cell, identified as HHP4, may be alternatively powered by liquid propane or natural gas, with a maximum output of 2200 hp when combusting diesel or biodiesel and 2200hp when combusting liquid propane or natural gas and a heat input of 14.09 MMBtu per hour when combusting diesel or biodiesel or 14.40 MMBtu/hr when combusting liquid propane or natural gas and exhausting to stacks HHP4.1 and HHP4.2.

(d) One (1) diesel or biodiesel-powered engineering engine test cell Test Pad 9, identified as EU-02C, installed in 2005, may be alternatively powered by liquid propane or natural gas, with maximum outputs of 4500 hp when combusting diesel or biodiese or 2200 hp when combusting liquid propane or natural gas, exhausting to stacks PD9.1 and PD9.2.

(e) One (1) engineering engine test cell, identified as HHP6, approved for construction in 2011, powered by diesel, biodiesel, natural gas, natural gas diluted with CO2, hydrogen or liquid propane with a maximum output of 9,000 hp, equipped to vent uncontrolled natural gas and liquid propane for a maximum time of 24 hours per year and equipped with an in-stack duct burner~~s~~, with maximum capacity of 2.0 MMBtu/hr, selective catalytic reduction for the control of NO_X emissions, an oxidation catalyst for the control of CO emissions, and exhausting to stack HHP6.1.

(f) One (1) engineering engine test cell, identified as HHP7, approved for construction in 2011, powered by diesel, biodiesel, natural gas, natural gas diluted with CO2, hydrogen or liquid propane with a maximum output of 9,000 hp, equipped with an in-stack duct burner, with maximum capacity of 2.0 MMBtu/hr, selective catalytic reduction for the control of NO_X emissions, an oxidation catalyst for the control of CO emissions, and exhausting to stack HHP7.1.

(g) One (1) engineering engine test cell, identified as HHP8, approved for construction in 2011, powered by diesel, biodiesel, natural gas, natural gas diluted with CO2, hydrogen or liquid propane with a maximum output of 9,000 hp, equipped with an in-stack duct burner, with maximum capacity of 2.0 MMBtu/hr, selective catalytic reduction for the control of NO_X emissions, an oxidation catalyst for the control of CO emissions, and exhausting to stack HHP8.1.

(h) One (1) engineering engine test cell, identified as HHP9, approved for construction in 2011, powered by diesel, biodiesel, natural gas, natural gas diluted with CO2, hydrogen or liquid propane with a maximum output of 9,000 hp, equipped with an in-stack duct burner, with maximum capacity of 2.0 MMBtu/hr, selective catalytic reduction for the control of NO_X emissions, an oxidation catalyst for the control of CO emissions, and exhausting to stack HHP9.1.

(i) One (1) engineering engine test cell, identified as HHP10, approved for construction in 2011, powered by diesel, biodiesel, natural gas, natural gas diluted with CO2, hydrogen or liquid propane with a maximum output of 9,000 hp, equipped to vent uncontrolled natural gas and liquid propane for a maximum time of 24 hours per year and equipped with an in-stack duct burner, with maximum capacity of 2.0 MMBtu/hr, selective catalytic reduction for the control of NO_X emissions, an oxidation catalyst for the control of CO emissions, and exhausting to stack HHP10.1.

(j) One (1) production engine test cell, identified as HHP11, approved for construction in 2011, powered by diesel, biodiesel, natural gas, natural gas diluted with CO2, hydrogen or liquid propane with a maximum output of 9,000 hp, equipped with an in-stack duct burner, with maximum capacity of 2.0 MMBtu/hr, selective catalytic reduction for the control of NO_X emissions, an oxidation catalyst for the control of CO emissions, and exhausting to stack HHP11.1.

(k) One (1) production engine test cell, identified as HHP12, approved for construction in 2011, powered by diesel, biodiesel, natural gas, natural gas diluted with CO2, hydrogen or liquid propane with a maximum output of 9,000 hp, equipped with an in-stack duct burner, with maximum capacity of 2.0 MMBtu/hr, selective catalytic reduction for the control of NO_X emissions, an oxidation catalyst for the control of CO emissions, and exhausting to stack HHP12.1.

(l) One (1) production engine test cell, identified as HHP13, approved for construction in 2011, powered by diesel, biodiesel, natural gas, natural gas diluted with CO2, hydrogen or liquid propane with a maximum output of 9,000 hp, equipped with an in-stack duct burner, with maximum capacity of 2.0 MMBtu/hr, selective catalytic reduction for the control of NO_X emissions, an oxidation catalyst for the control of CO emissions, and exhausting to stack HHP13.1.

(m) One (1) production engine test cell, identified as HHP14, approved for construction in 2011, powered by diesel, biodiesel, natural gas, natural gas diluted with CO2, hydrogen or liquid propane with a maximum output of 9,000 hp, equipped with an in-stack duct burner, with maximum capacity of 2.0 MMBtu/hr, selective catalytic reduction for the control of NO_X emissions, an oxidation catalyst for the control of CO emissions, and exhausting to stack HHP14.1.

(t) One (1) production engine test cell, identified as HHP15, permitted in 2014, powered by diesel, biodiesel, or natural gas with a maximum output of 9,000 hp, equipped with an in-stack duct burner, with maximum capacity of 5.0 MMBtu/hr, selective catalytic reduction (SCR) for the control of NOx emissions, an oxidation catalyst for the control of CO emissions, and exhausting to stack HHP15.1.

Insignificant Activities

(q) Natural gas-fired combustion sources, approved for construction in 2012, consisting of the following:

(1) Four (4) direct fired AHU, rated at 0.47 million British thermal units per hour, each.

(2) One (1) direct fired AHU, rated at 0.80 million British thermal units per hour.

(3) One (1) direct fired AHU, rated at 0.67 million British thermal units per hour.

(4) Two (2) direct fired AHU, rated at 0.30 million British thermal units per hour, each.

(5) Two (2) direct fired AHU, rated at 2.72 million British thermal units per hour, each.

(6) One (1) direct fired AHU, rated at 2.59 million British thermal units per hour.

(7) Two (2) direct fired AHU, rated at 3.27 million British thermal units per hour, each equipped with Low NOx burner.

(8) Two (2) dry and curing combustion units, rated at 2.40 million British thermal units per hour, each.

(9) Two (2) dry and curing combustion units, rated at 1.76 million British thermal units per hour, each, equipped with Low NOx burner.

(10) Eight (8) unit heaters, rated at 0.15 million British thermal units per hour, each.

(11) Nine (9) unit heaters, rated at 0.18 million British thermal units per hour, each

(r) Natural gas-fired combustion sources, approved for construction in 2013, consisting of the following:

(1) Seventeen (17) natural gas direct-fired air handling units, permitted in 2013, with a cumulative total heat input capacity of 25.5 mmBTU/hr.

(2) One (1) natural gas-fired unit heater, permitted in 2013, with a heat input capacity of 0.4 mmBTU/hr.

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

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

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

(a) The total NO_X emissions from the seventeen (17) engine test cells, known as EU-02A, EU-02B excluding HHP1, and EU-02C shall not exceed 217.9 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

The NO_X emissions shall be calculated by the following equation:

NO_X emissions = (Diesel fuel burned by 801, 802, 803, 804, 805 and 808) x (Ef1 of NO_X /gal of diesel fuel) + (Diesel fuel burned by 806, 807, HHP2, HHP3, HHP5, 8(PI), 10(PI), 11(PI), HHP4 and EU-02C) x (Ef2, of NO_X /gal of diesel fuel)

\+ (Natural gas burned by 806, 807, 808, HHP3 HHP4, HHP5 and PI) x (Ef3 of NO_X /ft3 of natural gas)

\+ (Biodiesel fuel burned by 806, 807, HHP2, HHP3, HHP5, 8(PI) (PI), 11(PI), HHP4 and EU-02C) x (Ef4 of NO_X /gal of biodiesel fuel)

\+ (Propane fuel burned by 806, 807, HHP3, HHP5, 8(PI) 10(PI), 11(PI), HHP4 and EU-02C) x (Ef5 of NO_X /gal of Propane fuel)

Where:

(1) Ef1 = Emission Factor in pounds of NO_X per gallon of diesel fuel for 801, 802, 803, 804, 805 and 808;

(2) Ef2 = Emission Factor in pounds of NO_X per gallon of diesel fuel for 806, 807, HHP2, HHP3, HHP5, 8(PI), 10(PI), 11(PI), HHP4 and EU-02C;

(3) Ef3 = Emission Factor in pounds of NO_X per MMBtu of natural gas for 806, 807, 808, HHP3 HHP4, HHP5 and PI;

(4) Ef4 = Emission Factor in pounds of NO_X per gallon of biodiesel fuel for 806, 807, HHP2, HHP3, HHP5, 8(PI), 10(PI), 11(PI), HHP4 and EU-02C; and

(5) Ef5 = Emission Factor in pounds of NO_X per gallon of propane for 806, 807, HHP3, HHP5, 8(PI), 10(PI), 11(PI), HHP4 and EU-02C.

Compliance with these limits shall limit the NO_X emissions from the engine test cells and other emission units to less than two hundred and fifty (250) tons per year and render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable to this 2009 modification.

(b) The total VOC emissions from the eleven (11) engine test cells, known as EU-02B, and EU-02C shall not exceed the 163.56 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

The VOC emissions shall be calculated by the following equation:

VOC emissions = (Diesel fuel burned by 801, 802, 803, 804, 805 and 808) x (Ef1 of VOC/gal of diesel fuel) + (Diesel fuel burned by 806, 807, HHP2, HHP3, HHP5, 8(PI), 10(PI), 11(PI), HHP4 and EU-02C) x Ef2, of NO_X /gal of diesel fuel)

\+ (Biodiesel fuel burned by 806, 807, HHP2, HHP3, HHP5, 8(PI) (PI), 11(PI), HHP4 and EU-02C) x (Ef4 of VOC/gal of biodiesel fuel)

\+ (Natural gas burned by 806, 807, 808, HHP4, HHP5 and PI) x (Ef3 of VOC /ft3 of natural gas) at a natural gas heat content of 1,020 MMBtu/ft3

\+ (Propane fuel burned by 806, 807, HHP3, HHP5, 8(PI) 10(PI), 11(PI), HHP4 and EU-02C) x (Ef5 of VOC/gal of Propane fuel)

Where:

(1) Ef1 = Emission Factor in pounds of VOC per gallon of diesel fuel for 801, 802, 803, 804, 805 and 808;

(2) Ef2 = Emission Factor in pounds of VOC per gallon of diesel fuel for 806, 807, HHP2, HHP3, HHP5, 8(PI), 10(PI), 11(PI), HHP4 and EU-02C;

(3) Ef3 = Emission Factor in pounds of VOC per MMBtu of natural gas for 806, 807, 808, HHP3 HHP4, HHP5 and PI;

(4) Ef4 = Emission Factor in pounds of VOC per gallon of biodiesel fuel for 806, 807, HHP2, HHP3, HHP5, 8(PI), 10(PI), 11(PI), HHP4 and EU-02C; and

(5) Ef5 = Emission Factor in pounds of VOC per gallon of propane for 806, 807, HHP3, HHP5, 8(PI), 10(PI), 11(PI), HHP4 and EU-02C.

Compliance with these limits shall limit the VOC emissions from the Engine test cells and other emission units to less than two hundred and fifty (250) tons per year and render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable to this 2009 modification.

(c) The total CO emissions from the eleven (11) engine test cells, known as EU-02B, and EU-02C shall not exceed 183.62 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

The CO emissions shall be calculated by the following equation:

CO emissions = (Diesel fuel burned by 801, 802, 803, 804, 805 and 808) x (Ef1 of CO/gal of diesel fuel) + (Diesel fuel burned by 806, 807, HHP2, HHP3, HHP5, 8(PI), 10(PI), 11(PI), HHP4 and EU-02C) x Ef2, of NO_X/gal of diesel fuel)

\+ (Biodiesel fuel burned by 806, 807, HHP2, HHP3, HHP5, 8(PI) (PI), 11(PI), HHP4 and EU-02C) x (Ef4 of CO/gal of biodiesel fuel)

\+ (Natural gas burned by 806, 807, 808, HHP4, HHP5 and PI) x (Ef3 of CO/ft3 of natural gas)

\+ (Propane fuel burned by 806, 807, HHP3, HHP5, 8(PI) 10(PI), 11(PI), HHP4 and EU-02C) x (Ef5 of CO/gal of Propane fuel)

Where:

(1) Ef1 = Emission Factor in pounds of CO per gallon of diesel fuel for 801, 802, 803, 804, 805 and 808;

(2) Ef2 = Emission Factor in pounds of CO per gallon of diesel fuel for 806, 807, HHP2, HHP3, HHP5, 8(PI), 10(PI), 11(PI), HHP4 and EU-02C;

(3) Ef3 = Emission Factor in pounds of CO per MMBtu of natural gas for 806, 807, 808, HHP3 HHP4, HHP5 and PI;

(4) Ef4 = Emission Factor in pounds of CO per gallon of biodiesel fuel for 806, 807, HHP2, HHP3, HHP5, 8(PI), 10(PI), 11(PI), HHP4 and EU-02C; and

(5) Ef5 = Emission Factor in pounds of CO per gallon of propane for 806, 807, HHP3, HHP5, 8(PI), 10(PI), 11(PI), HHP4 and EU-02C.

Compliance with these limits shall limit the CO emissions from the engine test cells and other emission units to less than two hundred and fifty (250) tons per year and render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable to this 2009 modification.

(d) GHGs as CO2e before Modification for all existing emission units:

The total CO2e emissions from Test Cells, identified as 801, 802, 803, 804, 805, 806, 807, 808, HHP2, HHP3, HHP 4, HHP5, Test Pad 8, Test Pad 9, Test Pad 10, and Test Pad 11 shall not exceed 99,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

The CO2e emissions shall be calculated by the following equation:

CO2e emission (metric tons) = (gallons of diesel fuel or biodiesel fuel burned by Test

Cells 801, 802, 803, 804, 805, 806, 807, 808, HHP2, HHP3, HHP 4, HHP5, Test Pad 8, Test Pad 9, Test Pad 10, and Test Pad 11) x HHVdf x EfCO2df x GWP(CO2) x 0.0011023

+

(SCF of natural gas burned by Test Cells 801, 802, 803, 804, 805, 806, 807, 808, HHP2, HHP3, HHP 4, HHP5, Test Pad 8, Test Pad 9, Test Pad 10, and Test Pad 11) x HHVng x EfCO2ng x GWP(CO2) x 0.0011023

+

(gallons of liquid propane burned by Test Cells 801, 802, 803, 804, 805, 806, 807, 808, HHP2, HHP3, HHP 4, HHP5, Test Pad 8, Test Pad 9, Test Pad 10, and Test Pad 11) x HHVlp x EfCO2lp x GWP(CO2) x 0.0011023

+

(gallons of diesel fuel , biodiesel fuel burned by Test Cells 801, 802, 803, 804, 805, 806, 807, 808, HHP2, HHP3, HHP 4, HHP5, Test Pad 8, Test Pad 9, Test Pad 10, and Test Pad 11) x HHVdf x EfCH4pet x GWP(CH4) x 0.0011023

+

(gallons of liquid propane burned by Test Cells 801, 802, 803, 804, 805, 806, 807, 808, HHP2, HHP3, HHP 4, HHP5, Test Pad 8, Test Pad 9, Test Pad 10, and Test Pad 11) x HHVlp x EfCH4pet x GWP(CH4) x 0.0011023

+

(SCF of natural gas burned by Test Cells 801, 802, 803, 804, 805, 806, 807, 808, HHP2, HHP3, HHP 4, HHP5, Test Pad 8, Test Pad 9, Test Pad 10, and Test Pad 11) x HHVng x EfCH4ng x GWP(CH4) x 0.0011023

+

(gallons of diesel fuel , biodiesel fuel burned by Test Cells 801, 802, 803, 804, 805, 806, 807, 808, HHP2, HHP3, HHP 4, HHP5, Test Pad 8, Test Pad 9, Test Pad 10, and Test Pad 11) x HHVdf x EfN2Opet x GWP(N2O) x 0.0011023 +

(gallons of liquid propane burned by Test Cells 801, 802, 803, 804, 805, 806, 807, 808, HHP2, HHP3, HHP 4, HHP5, Test Pad 8, Test Pad 9, Test Pad 10, and Test Pad 11) x HHVlp x EfN2Opet x GWP(N2O) x 0.0011023

+

(SCF of natural gas burned by Test Cells 801, 802, 803, 804, 805, 806, 807, 808, HHP2, HHP3, HHP 4, HHP5, Test Pad 8, Test Pad 9, Test Pad 10, and Test Pad 11) x HHVng x EfN2Ong x GWP(N2O) x 0.0011023

Where:

HHVxx is default heat value in Table C-1 to Subpart C of 40 CFR 98 for fuel xx

Ef XX.xx is the emission factor in Table C-1 or C-2 to Subpart C of 40 CFR 98 for pollutant XX (CO2, CH4 or N2O) for fuel xx

GWP (XX) is the global warming potential for pollutant XX (CO2, CH4 or N2O) from Table A-1 to Subpart A of 40 CFR 98

Compliance with this emission limit will limit the potential to emit CO2e from all existing units before this modification to less than 100,000 tons, per year and render the requirements of 326 IAC 2-2 (PSD), not applicable to the source before the addition of the Hedgehog project.

EMISSION LIMITS FOR THE UNITS; [HHP1, HHP6-HHP14, Boilers, Duct Burners, and Emergency Generators Air Handling Units, Drying and Curing Combustion Equipment and Unit Heaters]

(e) The total NOx emissions from HHP1, HHP6 – HHP14, the boilers, the emergency generator and air handling units, dry and curing combustion units and unit heaters shall not exceed 243 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

The NOx emissions (tons/month) shall be calculated by the following equation:

NOx emissions= (Diesel fuel burned in tz1 by HHP1, HHP6 – HHP14, x EFtz1df)+
(Diesel fuel burned in tz2 by HHP1, HHP6 – HHP14, x EFtz2df)+
(Diesel fuel burned in tz3 by HHP1, HHP6 – HHP14, x EFtz3df)+
(Diesel fuel burned in tz4 by HHP1, HHP6 – HHP14, x EFtz4df)+
(Diesel fuel burned in tz5 by HHP1, HHP6 – HHP14, x EFtz5df)
(Diesel fuel burned in tz6 by HHP1, HHP6 – HHP14, x EFtz6df)+
(Diesel fuel burned in tz7 by HHP1, HHP6 – HHP14, x EFtz7df)

\+

(Diesel fuel burned in HHP1, HHP6 – HHP14 when SCR is not in operation x EFnocontrol.df)

\+

(Biodiesel fuel burned in tz1 by HHP1, HHP6 – HHP14, x EFtz1bd)+ (Biodiesel fuel burned in tz2 by HHP1, HHP6 – HHP14, x EFtz2bd)+ (Biodiesel fuel burned in tz3 by HHP1, HHP6 – HHP14, x EFtz3bd)+ (Biodiesel fuel burned in tz4 by HHP1, HHP6 – HHP14, x EFtz4bd)+ (Biodiesel fuel burned in tz5 by HHP1, HHP6 – HHP14, x EFtz5bd) (Biodiesel fuel burned in tz6 by HHP1, HHP6 – HHP14, x EFtz6bd)+ (Biodiesel fuel burned in tz7 by HHP1, HHP6 – HHP14, x EFtz7bd)

\+

(Biodiesel fuel burned in HHP1, HHP6 – HHP14 when SCR is not in operation x EFnocontrol.bdf)

\+

(Natural Gas burned in tz1 by HHP1, HHP6 – HHP14, x EFtz1ng)+ (Natural Gas burned in tz2 by HHP1, HHP6 – HHP14, x EFtz2ng)+ (Natural Gas burned in tz3 by HHP1, HHP6 – HHP14, x EFtz3ng)+ (Natural Gas burned in tz4 by HHP1, HHP6 – HHP14, x EFtz4ng)+ (Natural Gas burned in tz5 by HHP1, HHP6 – HHP14, x EFtz5ng) (Natural Gas burned in tz6 by HHP1, HHP6 – HHP14, x EFtz6ng)+ (Natural Gas burned in tz7 by HHP1, HHP6 – HHP14, x EFtz7ng)

\+

(Natural Gas burned in HHP1, HHP6 – HHP14 when SCR is not in operation x EFnocontrol.ng

\+

(Hydrogen Gas burned in tz1 by HHP1, HHP6 – HHP14, x EFtz1h2)+ (Hydrogen Gas burned in tz2 by HHP1, HHP6 – HHP14, x EFtz2h2)+ (Hydrogen Gas burned in tz3 by HHP1, HHP6 – HHP14, x EFtz3h2)+ (Hydrogen Gas burned in tz4 by HHP1, HHP6 – HHP14, x EFtz4h2)+ (Hydrogen Gas burned in tz5 by HHP1, HHP6 – HHP14, x EFtz5h2) (Hydrogen Gas burned in tz6 by HHP1, HHP6 – HHP14, x EFtz6h2)+ (Hydrogen Gas burned in tz7 by HHP1, HHP6 – HHP14, x EFtz7h2)

+

Hydrogen Gas burned in HHP1, HHP6 – HHP14 when SCR is not in operation x EFnocontrol.h2

+

(Liquid Propane burned in tz1 by HHP1, HHP6 – HHP14, x EFtz1lp)+ (Liquid Propane burned in tz2 by HHP1, HHP6 – HHP14, x EFtz2lp)+ (Liquid Propane burned in tz3 by HHP1, HHP6 – HHP14, x EFtz3lp)+ (Liquid Propane burned in tz4 by HHP1, HHP6 – HHP14, x EFtz4lp)+ (Liquid Propane Gas burned in tz5 by HHP1, HHP6 – HHP14, x EFtz5lp) (Liquid Propane burned in tz6 by HHP1, HHP6 – HHP14, x EFtz6lp)+ (Liquid Propane burned in tz7 by HHP1, HHP6 – HHP14, x EFtz7lp)

+

Liquid Propane burned in HHP1, HHP6 – HHP14 when SCR is not in operation x EFnocontrol.lp

+

Natural Gas burned in uncontrolled natural gas combustion equipments x EFepahi NOx

+

Natural Gas burned in lo NOx natural gas combustion equipments x EFepalo NOx

+

Diesel Fuel burned in Emergency Generator x EFepaemgen

Where:

Uncontrolled natural gas combustion equipment consists of the following:

- Four (4) direct fired AHU, rated at 0.47 million British thermal units per hour, each.
- One (1) direct fired AHU, rated at 0.80 million British thermal units per hour.
- One (1) direct fired AHU, rated at 0.67 million British thermal units per hour.
- Two (2) direct fired AHU, rated at 0.30 million British thermal units per hour, each.
- Two (2) direct fired AHU, rated at 2.72 million British thermal units per hour, each.
- One (1) direct fired AHU, rated at 2.59 million British thermal units per hour.
- Two (2) dry and curing combustion units, rated at 2.40 million British thermal units per hour, each.
- Eight (8) unit heaters, rated at 0.15 million British thermal units per hour, each.

- Nine (9) unit heaters, rated at 0.18 million British thermal units per hour, each.
- Ten (10) in-stack duct burners associated with HHP1 and HHP6.
- Thirteen (13) boilers, identified as EU03C, EU03D, EU03I, through EU03M, EU03S through EU03V, EU03W and EU0X. (Section D.3)

Low NOx burner equipped natural gas combustion equipment consists of the following:

- Two (2) direct fired AHU, rated at 3.27 million British thermal units per hour, each equipped with Low NOx burner.
- Two (2) dry and curing combustion units, rated at 1.76 million British thermal units per hour, each, equipped with Low NOx burner.
- Nine (9) boilers, identified as EU03E,through EU03H, and EU03N through EU03R. (Section D.3)

tzx is the temperature range for the emission factor measured at the inlet of the SCR

EFtzx.xx is the measured NOx emission factor for temperature range x from the most recent valid stack test for fuel xx when SCR is operating

EFnocontrol.df is the emission factor for test cells operating with no SCR control and burning diesel fuel

EFnocontrol.bdf is the emission factor for test cells operating with no SCR control and burning biodiesel fuel

EFnocontrol.ng is the emission factor for test cells operating with no SCR control and burning natural gas

EFnocontrol.h2 is the emission factor for test cells operating with no SCR control and burning hydrogen gas

EFnocontrol.lp is the emission factor for test cells operating with no SCR control and burning liquid propane

EFepahi NOx is the USEPA NOx emission factor for uncontrolled natural gas combustion equipment (AP 42 4-1) from natural gas combustion

EFepalo NOx is the USEPA NOx emission factor for controlled lo NOx burners (AP 42 4-1) from natural gas combustion

EFepaemgen is the USEPA NOx emission factor for emergency generators burning Diesel Fuel

(f) The total CO emissions from HHP1, HHP6 – HHP14, the boilers, the emergency generator and air handling units, dry and curing combustion units and unit heaters shall not exceed 243 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

The CO emissions (tons/month) shall be calculated by the following equation:

CO emission= (Diesel fuel burned in tz1 by HHP1, HHP6 – HHP14), x COEFtz1df)+
(Diesel fuel burned in tz2 by HHP1, HHP6 – HHP14), x COEFtz2df)+
Diesel fuel burned in tz3 by HHP1, HHP6 – HHP14), x COEFtz3df

+

(Diesel fuel burned in HHP1, HHP6 – HHP14) when DOC in not in operation x COEFepatestcells.df

+

(Biodiesel fuel burned in tz1 by HHP1, HHP6 – HHP14), x COEFtz1bd)+ (Bioduesel fuel burned in tz2 by HHP1, HHP6 – HHP14), x COEFtz2bd)+ Bioduesel fuel burned in tz3 by HHP1, HHP6 – HHP14), x COEFtz3bd

+

(Biodiesel fuel burned in HHP1, HHP6 – HHP14) when DOC is not in operation x COEFepatestcells.bdf

+

(Natural Gas burned in tz1 by HHP1, HHP6 – HHP14), x COEFtz1ng)+ (Natural Gas burned in tz2 by HHP1, HHP6 – HHP14), x COEFtz2ng)+ Natural Gas burned in tz3 by HHP1, HHP6 – HHP14), x COEFtz3ng

+

(Natural Gas burned in HHP1, HHP6 – HHP14) when DOC is not in operation x COEFepatestcells.ng

+

(Hydrogen Gas burned in tz1 by HHP1, HHP6 – HHP14), x COEFtz1h2)+ (Hydrogen Gas burned in tz2 by HHP1, HHP6 – HHP14), x COEFtz2h2g)+ Hydrogen Gas burned in tz3 by HHP1, HHP6 – HHP14), x COEFtz3h2

+

(Hydrogen Gas burned in HHP1, HHP6 – HHP14) when DOC is not in operation x COEFepatestcells.h2

+

(Liquid Propane burned in tz1 by HHP1, HHP6 – HHP14), x COEFtz1lp)+ (Liquid Propane burned in tz2 by HHP1, HHP6 – HHP14), x COEFtz2lp)+ Liquid Propane burned in tz3 by HHP1, HHP6 – HHP14), x COEFtz3lp

+

(Liquid Propane burned in HHP1, HHP6 – HHP14) when DOC is not in operation x COEFepatestcells.lp

+

Natural Gas burned in natural gas combustion equipments x COEFepang

+

Diesel Fuel burned in Emergency Generator x COEFepaemgen

Where:

Uncontrolled natural gas combustion equipment consists of the following:

- Four (4) direct fired AHU, rated at 0.47 million British thermal units per hour, each.
- One (1) direct fired AHU, rated at 0.80 million British thermal units per hour.
- One (1) direct fired AHU, rated at 0.67 million British thermal units per hour.

- Two (2) direct fired AHU, rated at 0.30 million British thermal units per hour, each.
- Two (2) direct fired AHU, rated at 2.72 million British thermal units per hour, each.
- One (1) direct fired AHU, rated at 2.59 million British thermal units per hour.
- Two (2) dry and curing combustion units, rated at 2.40 million British thermal units per hour, each.
- Eight (8) unit heaters, rated at 0.15 million British thermal units per hour, each.
- Nine (9) unit heaters, rated at 0.18 million British thermal units per hour, each.
- Ten (10) in-stack duct burners associated with HHP1 and HHP6.
- Thirteen (13) boilers, identified as EU03C, EU03D, EU03I, through EU03M, EU03S through EU03V, EU03W and EU0X. (Section D.3)

Low NOx burner equipped natural gas combustion equipment consists of the following:

- Two (2) direct fired AHU, rated at 3.27 million British thermal units per hour, each equipped with Low NOx burner.
- Two (2) dry and curing combustion units, rated at 1.76 million British thermal units per hour, each, equipped with Low NOx burner.
- Nine (9) boilers, identified as EU03E,through EU03H, and EU03N through EU03R. (Section D.3)

tzx is the temperature range for the emission factor measured at the inlet of the DOC

COEFtzx.xx is the measured CO emission factor for temperature range x for fuel xx when DOC is operating

COEFepatestcells.df is the USEPA emission factor for test cells burning diesel fuels – used when DOC is not operating

COEFepatestcells.bdf is the USEPA emission factor for test cells burning biodiesel fuel – used when DOC is not operating

COEFepatestcells.ng is the USEPA emission factor for test cells burning natural gas – used when DOC is not operating

COEFepatestcells.h2 is the USEPA emission factor for test cells burning hydrogwn gas – used when DOC is not operating

COEFepatestcells.lp is the USEPA emission factor for test cells burning liquid propane– used when DOC is not operating

COEFepang is the USEPA CO emission factor for equipment burning natural gas (AP 42 4-1)

COEFemgen is the USEPA CO emission factor for emergency generators burning Diesel Fuel

(g) The total VOC emissions from HHP1, HHP6 – HHP14, the new paint booths, the boilers, the ten (10) in-stack duct burners associated with HHP-1 and HHP 6-14, emergency generator and air handling units, dry and curing combustion units and unit heaters shall not exceed 248 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

The VOC emissions (tons/month) shall be calculated by the following equation

VOC emission = (Diesel fuel burned by HHP1, HHP6 – HHP14 x Ef1v)

+

(Biodiesel fuel burned by HHP1, HHP6 – HHP14) x Ef2v

+

(Natural gas burned by HHP1, HHP6 – HHP14) x Ef3v

+

(Hydrogen Gas burned by HHP1, HHP6 – HHP14) x Ef4v

+

(Liquid Propane burned by HHP1, HHP6 – HHP14) x Ef5v

+

The amount of VOC delivered to the coating applicators (5 New paint Booth) from coatings, and dilution and cleaning solvents used in the paint spray line.

+

Natural Gas burned in all natural gas combustion equipment X Ef6v

+

Diesel Fuel burned in the emergency generator X Ef7v

+

Lb of Propane vented in HHP 6 and HHP 10

Where:

Uncontrolled natural gas combustion equipment consists of the following:

- Four (4) direct fired AHU, rated at 0.47 million British thermal units per hour, each.
- One (1) direct fired AHU, rated at 0.80 million British thermal units per hour.
- One (1) direct fired AHU, rated at 0.67 million British thermal units per hour.
- Two (2) direct fired AHU, rated at 0.30 million British thermal units per hour, each.
- Two (2) direct fired AHU, rated at 2.72 million British thermal units per hour, each.
- One (1) direct fired AHU, rated at 2.59 million British thermal units per hour.
- Two (2) dry and curing combustion units, rated at 2.40 million British thermal units per hour, each.
- Eight (8) unit heaters, rated at 0.15 million British thermal units per hour, each.
- Nine (9) unit heaters, rated at 0.18 million British thermal units per hour, each.
- Ten (10) in-stack duct burners associated with HHP1 and HHP6.
- Thirteen (13) boilers, identified as EU03C, EU03D, EU03I, through EU03M, EU03S through EU03V, EU03W and EU0X. (Section D.3)

Low NOx burner equipped natural gas combustion equipment consists of the following:

- Two (2) direct fired AHU, rated at 3.27 million British thermal units per hour, each equipped with Low NOx burner.

- Two (2) dry and curing combustion units, rated at 1.76 million British thermal units per hour, each, equipped with Low NOx burner.
- Nine (9) boilers, identified as EU03E,through EU03H, and EU03N through EU03R. (Section D.3)

Ef1v = Emission Factor for VOC for diesel fuel for HHP1, HHP6 – HHP14;

Ef2v = Emission Factor for VOC for Biodiesel fuel for HHP1, HHP6 – HHP14;

Ef3v = Emission Factor for VOC for natural gas for HHP1, HHP6 – HHP14;

Ef4v= Emission Factor for VOC for hydrogen gas for HHP1, HHP6 – HHP14;
Ef5v= Emission Factor for VOC for liquid propane gas for HHP1, HHP6 – HHP14;
Ef6v = Emission factor from AP- 42 Chapter 1.4 Table 1.4-2 July 1998 **for natural** gas burned in combustion equipment
Ef7v = Emission factor for diesel fuel burned in the emergency generator

Compliance with these limits in combination with the potential to emit of NOx, CO and VOC from all other units from all other emission units shall limit the emissions of NOx, CO and VOC emissions to less than two hundred and fifty (250) tons per year, each and render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable to the 2012 revision. After this revision the limited PTE from PM, PM_{10}, SO_2, NO_X, CO and VOC for the entire source will be greater than 250 tons per year. Therefore, due to the addition of new production lines and test cells, and air handling units, dry and curing combustion units and unit heaters the entire source will become major source under PSD after 2011.

(h) The total CO2e emissions from the Test Cells, identified as HHP1, HHP 6-14, the ten (10) in-stack duct burners associated with HHP-1 and HHP 6-14, emergency generator boilers and air handling units, dry and curing combustion units and unit heaters shall not exceed 99,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

The CO2e emissions shall be calculated by the following equation:

CO2e emission (metric tons) = (gallons of diesel fuel or biodiesel fuel burned by Test Cells HHP 6-14, HHP 1, and the emergency generator) x HHVdf x EfCO2df x GWP (CO2) x 0.0011023

+

(SCF of natural gas burned by Test Cells HHP 6-14, HHP1, duct burners, and natural gas combustion equipment) x HHVng x EfCO2ng x GWP(CO2) x 0.0011023

+

(gallons of diesel fuel and biodiesel fuel burned by Test Cells HHP 6-14, HHP 1, and the emergency generator) x HHVdf x EfCH4pet x GWP(CH4) x 0.0011023

+

(SCF of natural gas burned by Test Cells HHP 6-14, HHP 1, duct burners, and natural gas combustion equipment) x HHVng x EfCH4ng x GWP(CH4) x 0.0011023

+

(gallons of diesel fuel and biodiesel fuel burned by Test Cells HHP 6-14, HHP 1, and the emergency generator) x HHVdf x EfN2Opet x GWP(N2O) x 0.0011023

+

(SCF of natural gas burned by Test Cells HHP 6-14, HHP1, duct burners, and natural gas combustion equipment) x HHVng x EfN2Ong x GWP(N2O) x 0.0011023

+

(gallons of liquid propane burned by Test Cells HHP 6-14, HHP 1) x HHVlp x EfCO2lp x GWP(CO2) x 0.0011023

+

(gallons of liquid propane burned by Test Cells HHP 6-14, HHP 1) x HHVlp x EfCH4pet x GWP(CH4) x 0.0011023

+

(gallons of liquid propane burned by Test Cells HHP 6-14, HHP 1) x HHVlp x EfN2Opet x GWP(N2O) x 0.0011023

+

(mass of hydrogen gas burned by Test Cells HHP 6-14, HHP 1) X EfCO2eh2

+

Tons of CO2 used as diluent in Test Cells HHP 1, HHP 6-14

+

Tons of Methane vented from HHP 6 and HHP 10 X GWP (CH4)

Where:

Uncontrolled natural gas combustion equipment consists of the following:

- Four (4) direct fired AHU, rated at 0.47 million British thermal units per hour, each.
- One (1) direct fired AHU, rated at 0.80 million British thermal units per hour.
- One (1) direct fired AHU, rated at 0.67 million British thermal units per hour.
- Two (2) direct fired AHU, rated at 0.30 million British thermal units per hour, each.
- Two (2) direct fired AHU, rated at 2.72 million British thermal units per hour, each.
- One (1) direct fired AHU, rated at 2.59 million British thermal units per hour.
- Two (2) dry and curing combustion units, rated at 2.40 million British thermal units per hour, each.
- Eight (8) unit heaters, rated at 0.15 million British thermal units per hour, each.
- Nine (9) unit heaters, rated at 0.18 million British thermal units per hour, each.
- In-Stack duct burners associated with HHP1 and HHP6.
- Thirteen (13) boilers, identified as EU03C, EU03D, EU03I, through EU03M, EU03S through EU03V, EU03W and EU0X. (Section D.3)

Low NOx burner equipped natural gas combustion equipment consists of the following:

- Two (2) direct fired AHU, rated at 3.27 million British thermal units per hour, each equipped with Low NOx burner.

- Two (2) dry and curing combustion units, rated at 1.76 million British thermal units per hour, each, equipped with Low NOx burner.
- Nine (9) boilers, identified as EU03E,through EU03H, and EU03N through EU03R. (Section D.3)

HHVxx is default heat value in Table C-1 to Subpart C of 40 CFR 98 for fuel xx

Ef XX.xx is the emission factor in Table C-1 or C-2 to Subpart C of 40 CFR 98 for pollutant XX (CO2, CH4 or N2O) for fuel xx

GWP (XX) is the global warming potential for pollutant XX (CO2, CH4 or N2O) from Table A-1 to Subpart A of 40 CFR 98

EfCO2eh2 is the emission factor for CO2e for hydrogen gas

Compliance with this emission limit will limit the potential to emit CO2e from the Test Cells, identified as HHP1, HHP 6-14, duct burners, emergency generator and air handling units, dry and curing combustion units and unit heaters to less than 100,000 tons, per year and render the requirements of 326 IAC 2-2, not applicable to the source before the 2012 revision.

D.2.2 HAPs Minor Limits [40 CFR 63]

The Permittee shall comply with the following:

(a) The single HAP from the paint spray line booth, identified as EU-01, twenty-seven (27) engine test cells, identified as 801-808, HHP1-HHP15, 8(PI), 9(PI), 10(PI), 11(PI), the eleven (11) in-stack duct burners associated with HHP-1 and HHP 6-15, the 1490 hp emergency generator, and the natural gas combustion equipments shall be less than 9.5 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

The single HAP emissions shall be calculated by the following equation:

HAP emissions = The amount of single HAP (worst case) delivered to the coating applicators (EU-01G - EU-01K) from coatings, and dilution and cleaning solvents used in the paint spray line identified as EU-01

\+ (Diesel fuel and biodiesel fuel burned by all test cells and the 1490 hp emergency generator) x Ef1hs

\+ (Natural gas burned by all test cells and natural gas combustion equipment) x Ef2hs

\+
(Liquid Propane burned by engines in all test cells) X Ef3hs)

Where:

Uncontrolled natural gas combustion equipment consists of the following:

- Four (4) direct fired AHU, rated at 0.47 million British thermal units per hour, each.
- One (1) direct fired AHU, rated at 0.80 million British thermal units per hour.
- One (1) direct fired AHU, rated at 0.67 million British thermal units per hour.
- Two (2) direct fired AHU, rated at 0.30 million British thermal units

per hour, each.

- Two (2) direct fired AHU, rated at 2.72 million British thermal units per hour, each.
- One (1) direct fired AHU, rated at 2.59 million British thermal units per hour.
- Two (2) dry and curing combustion units, rated at 2.40 million British thermal units per hour, each.
- Eight (8) unit heaters, rated at 0.15 million British thermal units per hour, each.
- Nine (9) unit heaters, rated at 0.18 million British thermal units per hour, each.
- Seventeen (17) air handling units rated at 25.5 mmBTU/hr total.
- One (1) unit heater rated at 0.4 mmBTU/hr.
- Thirteen (13) boilers, identified as EU03C, EU03D, EU03I, through EU03M, EU03S through EU03V, EU03W and EU0X.
- Eleven (11) duct burners associated with engine test cells HHP1 and HHP6 through HHP15

Low NOx burner equipped natural gas combustion equipment consists of the following:

- Two (2) direct fired AHU, rated at 3.27 million British thermal units per hour, each equipped with Low NOx burner.
- Two (2) dry and curing combustion units, rated at 1.76 million British thermal units per hour, each, equipped with Low NOx burner.
- Nine (9) boilers, identified as EU03E,through EU03H, and EU03N through EU03R.

Ef1hs = Emission Factor is the emission factor for diesel and biodiesel fuel burned in test cells and the 1490 hp emergency generator for single HAP

Ef2hs = Emission Factor is the emission factor for natural gas burned in test cells and natural gas combustion equipment for single HAP;

Ef3hs= Emission Factor is the emission factor for liquid propane fuel burned in test cells for single HAPs

(b) The total HAP from the paint spray line booth, identified as EU-01, twenty-seven (27) engine test cells, identified as 801-808, HHP1-HHP15, 8(PI), 9(PI), 10(PI), 11(PI), the eleven (11) in-stack duct burners associated with HHP-1 and HHP 6-15, the 1490 hp emergency generator, and natural gas combustion equipments shall be less than 24.0 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

The total HAP emissions shall be calculated by the following equation:

HAP emissions = The amount of total HAP delivered to the coating applicators (EU-01G - EU-01K) from coatings, and dilution and cleaning solvents used in the paint spray line identified as EU-01

\+ (Diesel fuel and biodiesel fuel burned by engines in all test cells and the 1490 hp emergency generator) x Ef1ht,

\+ (Natural gas burned by engines in all test cells and natural gas combustion equipment) x Ef2ht

\+

(Liquid Propane burned by engines in all test cells) X Ef3ht

Where:

Uncontrolled natural gas combustion equipment consists of the following:

- Four (4) direct fired AHU, rated at 0.47 million British thermal units per hour, each.
- One (1) direct fired AHU, rated at 0.80 million British thermal units per hour.
- One (1) direct fired AHU, rated at 0.67 million British thermal units per hour.
- Two (2) direct fired AHU, rated at 0.30 million British thermal units per hour, each.
- Two (2) direct fired AHU, rated at 2.72 million British thermal units per hour, each.
- One (1) direct fired AHU, rated at 2.59 million British thermal units per hour.
- Two (2) dry and curing combustion units, rated at 2.40 million British thermal units per hour, each.
- Eight (8) unit heaters, rated at 0.15 million British thermal units per hour, each.
- Nine (9) unit heaters, rated at 0.18 million British thermal units per hour, each.
- Seventeen (17) air handling units rated at 25.5 mmBTU/hr total.
- One (1) unit heater rated at 0.4 mmBTU/hr.
- Thirteen (13) boilers, identified as EU03C, EU03D, EU03I, through EU03M, EU03S through EU03V, EU03W and EU0X.
- Eleven (11) duct burners associated with engine test cells HHP1 and HHP6 through HHP15

Low NOx burner equipped natural gas combustion equipment consists of the following:

- Two (2) direct fired AHU, rated at 3.27 million British thermal units per hour, each equipped with Low NOx burner.
- Two (2) dry and curing combustion units, rated at 1.76 million British thermal units per hour, each, equipped with Low NOx burner.
- Nine (9) boilers, identified as EU03E,through EU03H, and EU03N through EU03R.

Natural gas combustion equipment includes boilers, air handling units, drying and curing combustion equipment and unit heaters

Ef1ht = Emission Factor for diesel and biodiesel fuel burned in test cells and the 1490 hp emergency generator for total HAPs

Ef2ht = Emission Factor for natural gas burned in test cells and natural gas combustion equipment for total HAPs

Ef3ht= Emission Factor for liquid propane fuel burned in test cells for total HAPs

Compliance with these limits, the limit in Condition D.1.2, and the potential HAP emissions from the other emission units at this source, will limit the source-wide emissions of HAPs to less than ten (10) tons of a single HAP and less than twenty-five (25) tons of a combination of HAPs per twelve (12) consecutive month period and render the requirements of 326 IAC 2-4.1, not applicable to this source and make the source an area source of HAPs.

D.2.3 Sulfur Dioxide (SO_2) Operational Limits

All the test cells and production lines at the source shall comply with the following.

(1) All existing test cells and production lines shall utilized a ultra low sulfur diesel (ULSD) (15 PPM S) fuel during normal operation

(2) Four (4) existing test cells, HHP2, HHP4, Test Pad 8, and Test Pad 10, shall burn diesel with a fuel sulfur content limit of 1,000 parts per million (ppm), but only two (2) of these four test cells may burn diesel fuel with 1000 PPM S at any given time, alternatively, three (3) existing test cells, HHP4, Test Pad 8 and Test Pad 10 shall burn diesel with a fuel sulfur content limit of 2,000 parts per million (ppm), but only one (1) of these three test cells may burn diesel fuel with 2000 PPM S at any given time.

D.2.4 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan is required for the engine test cells, production lines, and their control devices. Section B – Preventive Maintenance Plan contains the Permittee’s obligation with regard to preventive maintenance plans.

Compliance Determination Requirements [326 IAC 2-7-5(1)] [326 IAC 2-7-6(1)] [40 CFR 64]

D.2.5 Nitrogen Oxide (NOx) Control

In order to ensure compliance with Condition D.2.1(e), the NOx emissions from each test cell shall be controlled with selective catalytic reduction. The tests cells may be operated without the SCR control system with emissions reported as specified in 2.1 (e).

D.2.6 Carbon Monoxide (CO) Control

In order to ensure compliance with Condition D.2.1(f), the CO emissions from each test cell shall be controlled with an oxidation catalyst. The tests cells may be operated without the DOC control system with emissions reported as specified in 2.1 (f).

D.2.7 Testing Requirements [326 IAC 2-1.1-11]

(a) In order to demonstrate compliance with Condition D.2.1(e) and within sixty (60) days of reaching maximum capacity but no later than one hundred and eighty (180) days after initial startup of the SCR, the Permittee shall conduct NOx emissions stack testing of the emissions from selective catalytic reduction (SCR) on a representative test cell utilizing methods as approved by the commissioner. These tests shall be repeated at least once every five 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.

(b) In order to demonstrate compliance with Condition D.2.1(e) and within sixty (60) days of reaching maximum capacity but no later than one hundred and eighty (180) days after startup of the test cells, the Permittee shall conduct NOx emissions stack testing of the uncontrolled emissions from a representative test cell utilizing methods as approved by the commissioner. This test shall be performed once. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures) or NRPD Air-14-NPD. Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

.

(c) In order to demonstrate compliance with Condition D.2.1(f) and within sixty (60) days of reaching maximum capacity but no later than one hundred and eighty (180) days after initial startup of the catalytic oxidizer, the Permittee shall conduct CO emissions stack testing of the emissions from the catalytic oxidizer on a representative test cell utilizing methods as approved by the commissioner. These tests shall be repeated at least once every five 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 2-7-5(1)] [326 IAC 2-7-6(1)]

D.2.8 Visible Emissions Notations

(a) Visible emissions notations of the engine test cell stack exhausts (801.1 -801.2, 802.1 -802.2, 803.1-803.2, 804 through 808, HHP1.1, HHP2, HHP3.1 -HHP3.2, HHP4.1-HHP4.2, HHP5.1-HHP5.2, PD8.1-PD8.2, PD9.1 PD9.2, PD10.1, PD11.1, HHP6.1 through HHP10.1, HHP11.1, HHP12.1, HHP13.1 and HHP14.1) shall be performed once per day during normal daylight operations when combusting diesel fuel or biodiesel. A trained employee will 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. Observation of abnormal emissions that do not violate an applicable opacity limit is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit. Section C – Response to Excursions or Exceedances contains the Permittee’s obligation with regard to response to excursions or exceedances.

D.2.9 SCR Parametric Monitoring

(a) In order to demonstrate compliance status with Conditions D.2.1(e), the Permittee shall monitor the selective catalyst reduction (SCR) temperature and fuel used with a continuous fuel and temperature monitoring system. Fuel consumption will be recorded for each temperature zone tested in section 2.7 (a). The Permittee shall comply with the following:

(i) The test cells and the SCR shall operated such that the temperature and fuel consumption will be monitored continuously. Failure of either the temperature or fuel monitoring system for more than three (3) hours will require reasonable response steps to be taken to return the system to normal operation. Failure to take response steps shall be considered as a deviation from the permit. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition.

(ii) In order to demonstrate compliance status with Conditions D.2.1(e), the Permittee shall continuously monitor the urea flow rate used in conjunction with the test cell SCR. The urea flow rate will be compared to the corresponding inlet NO and NO_2 load and the SCR temperature based performance characteristics.

If the urea flow rate does not correlate with that of the most recent stack test specified in section 2.7(a), the Permittee shall take reasonable response steps. Failure to take response steps shall be considered as a deviation from the permit. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition.

(b) The permittee will submit a compliance monitoring plan within 60 days after the permit is issued demonstrating compliance with section 2.9 (a).

D.2.10 Oxidation Catalyst Parametric Monitoring

(a) In order to demonstrate the compliance status with Conditions D.2.1(f), the Permittee shall monitor the Diesel Oxidation Catalyst (DOC) temperature and fuel used by the test cells with a continuous fuel and temperature monitoring system. Fuel consumption will be recorded for each temperature zone tested in section 2.7 (a). For the purposes of this condition, continuous monitoring means recording the temperature no less often than every 15 minutes. The output of this system shall be recorded as a three (3) hour average.The Permittee shall comply with the following:

(i) The test cells and the DOC shall be operated such that the temperature will be monitored continuously. Failure of either the temperature or fuel monitoring system for more than three (3) hours will require reasonable response steps to be taken to return the system to normal operation. Failure to take response steps shall be considered as a deviation from the permit. Section C - Response to Excursions or Exceedences contains the Permittee's obligation with regard to the reasonable response steps required by this condition.

(ii) In order to demonstrate compliance status with Conditions D.2.1(f), the Permittee shall monitor performance characteristics of the DOC using a portable analyzer in accordance with an approved compliance monitoring plan identified in section D.2.10 (b). If the performance characteristics of the DOC as measured by the portable analyzer do not correlate with those established during the most recent stack test specified in section 2.7(a), the Permittee shall take reasonable response steps. Failure to take response steps shall be considered as a deviation from the permit. Section C - Response to Excursions or Exceedences contains the Permittee's obligation with regard to the reasonable response steps required by this condition.

(b) The permittee will submit a compliance monitoring plan within 60 days after the permit is issued outlining the permittees approach for demonstrating compliance with section 2.10 (a).

(c) Section C - Response to Excursions or Exceedences contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Excursions defined in Sections 2.9 (a) and 2.10 (a) require reasonable response steps. Failure to take response steps shall be considered a deviation from this permit.

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

D.2.11 Record Keeping Requirements

(a) To document the compliance status with Condition D.2.1 and D.2.2, the Permittee shall maintain records in accordance with (1) and (2) below:

(1) Calendar dates covered in the compliance determination period; and

(2) Actual diesel, biodiesel fuel oil, liquid propane, hydrogen and natural gas, usage since last compliance determination period and equivalent NO_X and HAP emissions.

(b) To document the compliance status with Condition D.2.3(1) , the Permittee shall maintain records in accordance with (1) through (5) below.

(1) Calendar dates covered in the calendar month average period;

(2) Actual fuel oil usage since last compliance determination period and equivalent sulfur dioxide emissions;

(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; and

If the fuel supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:

(4) The name of the fuel supplier; and

(5) A statement from the fuel supplier that certifies the sulfur content of the fuel oil.

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

(c) To document compliance with Condition D.2.3(2), the Permittee shall keep a log record of High Sulfur Testing conducted at the facility. The log record will include the following:

(1) Test Cells used for high sulfur testing including the time and date the each test started and ended.

(2) Sulfur content of the fuel used for high sulfur testing

(d) To document the compliance status with Condition D.2.8 - Visible Emission Notation, the Permittee shall maintain records of daily visible emission notations of the engine test cell stack exhausts (801.1 -801.2, 802.1 -802.2, 803.1-803.2, 804 through 808, HHP1, HHP2, HHP3.1 -HHP3.2, HHP4.1-HHP4.2, HHP5.1-HHP5.2, PD8.1-PD8.2, PD9.1 and PD9.2, PD10.1, PD11.1, HHP6.1 through HHP10.1, HHP11.1, HHP12.1, HHP13.1 and HHP14.1) when combusting diesel fuel or biodiesel. 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).

(e) In order to document the compliance status with Condition D.2.9, the Permittee shall maintain records of the urea flow rate and the SCR temperature used in conjunction with the test cells. The Permittee shall include in its daily record when a flow rate and temperature reading are not taken and the reason for the lack of a flow rate and temperature reading (e.g. the process did not operate that day).

(f) In order to document the compliance status with Condition D.2.10, the Permittee shall maintain continuous temperature records (on a three- (3-) hourly average basis) for each oxidation catalyst to demonstrate compliance.

(g) Section C – General Record Keeping Requirements contains the Permittee’s obligation with regard to record keeping.

D.2.12 Reporting Requirements

A quarterly summary of the information to document the compliance status with conditions D.2.1, and D.2.2 shall be submitted using the reporting forms located at the end of this permit, or their equivalent, not later than thirty (30) days following the end of each calendar quarter. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(34). Section C - General Reporting Requirements contains the Permittee's obligations with regard to the reporting required by this condition.

SECTION D.3 EMISSION UNIT OPERATION CONDITIONS

Emission Unit Description [326 IAC 2-7-5(14)]:

(n) Nine (9) natural gas fired boilers, identified as EU03C-EU03D, EU03L-EU03M, EU03S-EU0V, approved for construction in 2011, each having a maximum capacity of 2.0 MMBtu/hr and EU03X having a maximum capacity of 4.2 MMBtu/h.

(o) Four (4) natural gas fired boilers, approved for construction in 2012,consisting of the following:

(1) Two (2) boilers, identified as EU03I, and EU03J, each with a maximum heat input capacity of 4.0 MMBtu/hr.

(2) One (1) boiler, identified as EU03K, each with a maximum heat input capacity of 3.2 MMBtu/hr.

(3) One (1) boiler, identified as EU03W, each with a maximum heat input capacity of 5 MMBtu/hr.

(p) Nine (9) natural gas fired boilers, approved for construction in 2012, each equipped with Low NOx burners for NOx reduction, consisting of the following:

(1) Five (5) boilers, identified as EU03E, EU03F, EU03G, EU03H, and EU03R, each rated at a maximum heat input capacity of 3.0 MMBtu/hr.

(2) Four (4) boilers, identified as EU03N, EU03O, EU03P, and EU03Q, each rated at a maximum heat input capacity of 3.5 MMBtu/hr.

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

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

D.3.1 Particulate Emission Limitations for Sources of Indirect Heating Matter (PM) Limitation [326 IAC 6-2-4]

(a) Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), the PM emissions from boilers, EU03C-EU03D, EU03L-EU03M and EU03S-EU03X, shall each be limited to 0.338 pounds per MMBtu heat input.

(b) Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), the PM emissions from boilers, EU-03E - EU-03K, EU-03N - EU-03R and EU-03W, shall each be limited to 0.374 pounds per MMBtu heat input.

SECTION D.4 EMISSION UNIT OPERATION CONDITIONS

Emission Unit Description [326 IAC 2-7-5(14)]:

(a) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6. [326 IAC 8-3];

(b) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment. [326 IAC 6-3];

(c) Sources that have the potential to emit less than five (5) tons per year of particulate matter (PM) (326 IAC 2-1.1-3(e)(1)(a));

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

(d) One (1) 25,000 gallon No.2 diesel storage tank, constructed in 1998.[326 IAC 12] [40 CFR 60, Subpart Kb];

(e) One (1) 20,000 gallon No.2 diesel storage tank, constructed in 2011.[326 IAC 12] [40 CFR 60, Subpart Kb];

(f) One (1) 100,000 gallon No 2 diesel storage tank, approved for construction in 2011 [326 IAC 12] [40 CFR 60 Subpart Kb];

(g) One (1) emergency diesel powered generator permitted in 2011, with maximum output capacity of 1490 horse power. [Under 40 CFR 60, Subpart IIII, the emergency generator is considered a new affected source.][Under 40 CFR 63, Subpart ZZZZ, the emergency generator is considered a new affected source.].

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

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

D.4.1 Volatile Organic Compounds (VOC) [326 IAC 8-3-2]

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Degreaser Control and Equipment Operating Requirements), the Permittee shall:

(a) Ensure the following control equipment and operating requirements are met:

(1) Equip the degreaser with a cover.

(2) Equip the degreaser with a device for draining cleaned parts.

(3) Close the degreaser cover whenever parts are not being handled in the degreaser.

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

(5) Provide a permanent, conspicuous label that lists the operating requirements in subdivisions (3), (4), (6), and (7).

(6) Store waste solvent only in closed containers.

(7) Prohibit the disposal or transfer of waste solvent in such a manner that could allow greater than twenty percent (20%) of the waste solvent (by weight) to evaporate into the atmosphere.

(b) Ensure the following additional control equipment and operating requirements are met:

(1) Equip the degreaser with one (1) of the following control devices if the solvent is heated to a temperature of greater than forty-eight and nine-tenths (48.9) degrees Celsius (one hundred twenty (120) degrees Fahrenheit):

(A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
(B) A water cover when solvent used is insoluble in, and heavier than, water.
(C) A refrigerated chiller.
(D) Carbon adsorption.
(E) An alternative system of demonstrated equivalent or better control as those outlined in clauses (A) through (D) that is approved by the department. An alternative system shall be submitted to the U.S. EPA as a SIP revision.

(2) Ensure the degreaser cover is designed so that it can be easily operated with one (1) hand if the solvent is agitated or heated.

(3) If used, solvent spray:
(A) must be a solid, fluid stream; and
(B) shall be applied at a pressure that does not cause excessive splashing.

D.4.2 Material Requirements for Cold Cleaner Degreasers [326 IAC 8-3-8]

Pursuant to 326 IAC 8-3-8 (Material Requirements for Cold Cleaner Degreasers), on and after January 1, 2015, the Permittee shall not operate a cold cleaning degreaser with a solvent that has a VOC composite partial vapor pressure that exceeds one (1) millimeter of mercury (nineteen-thousandths (0.019) pound per square inch) measured at twenty (20) degrees Celsius (sixty-eight (68) degrees Fahrenheit).

D.4.3 Particulate Emission Limitations for Manufacturing Processes[326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(d) (Particulate emission limitations, work practices, and control technologies), the particulate from the grinding and machining operations shall be limited by the following:

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:

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

D.4.4 Standards of Performance for Volatile Organic Liquid Storage Vessels [326 IAC 12] [40 CFR 60, Subpart Kb]

The one (1) 25,000 gallon No.2 diesel storage tank and the one (1) 100,000 gallon No 2 diesel storage tank shall comply with the New Source Performance Standards (NSPS), 326 IAC 12 (40 CFR Part 60, Subpart Kb). 40 CFR Part 60.116b paragraphs (a) and (b) require the Permittee to maintain accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. Records shall be kept for the life of the storage tanks.

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

D.4.5 Standards of Performance for Volatile Organic Liquid Storage Vessels [326 IAC 12] [40 CFR 60, Subpart Kb]

The Permittee shall maintain accessible records showing the dimension of the No.2 diesel storage tank and an analysis showing the capacity of the storage vessel. Records shall be kept for the life of the storage tank.

D.4.6 Record Keeping Requirements

To document the compliance status with Condition D.4.2, on and after January 1, 2015, the Permittee shall maintain the following records for each purchase of solvent used in the cold cleaner degreasing operations. These records shall be retained on-site or accessible electronically for the most recent three (3) year period and shall be reasonably accessible for an additional two (2) year period.

(a) The name and address of the solvent supplier.

(b) The date of purchase.

(c) The type of solvent purchased.

(d) The total volume of the solvent purchased.

(e) The true vapor pressure of the solvent measured in millimeters of mercury at twenty (20) degrees Celsius (sixty-eight (68) degrees Fahrenheit).

SECTION D.5 EMISSION UNIT OPERATION CONDITIONS

Emission Unit Description [326 IAC 2-7-5(14)]:

(t) One (1) production engine test cell, identified as HHP15, permitted in 2014, powered by diesel, biodiesel, or natural gas with a maximum output of 9,000 hp, equipped with an in-stack duct burner, with maximum capacity of 5.0 MMBtu/hr, selective catalytic reduction (SCR) for the control of NOx emissions, an oxidation catalyst for the control of CO emissions, and exhausting to stack HHP15.1.

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

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

D.5.1 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]

(a) The total CO emissions from the engine test cell, HHP15, shall not exceed 99 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

(b) The total NOx emissions from the engine test cell, HHP15, shall not exceed 39 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

Compliance with these limits shall limit the CO emissions from the engine test cell (HHP15) to less than one hundred (100) tons per year, limit the NOx emissions from the engine test cell (HHP15) to less than forty (40) tons per year, and render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable to this 2014 modification.

D.5.2 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan is required for the engine test cell HHP15 and its control devices. Section B --Preventive Maintenance Plan contains the Permittee's obligation with regard to preventive maintenance plans.

Compliance Determination Requirements [326 IAC 2-7-5(1)][326 IAC 2-7-6(1)][40 CFR 64]

D.5.3 Carbon Monoxide (CO) Control

In order to ensure compliance with Condition D.5.1 (a), the CO emissions from each test cell shall be controlled with an oxidation catalyst. The tests cells may be operated without the DOC control system with emissions reported as specified in D.5.4.

D.5.4 Carbon Monoxide (CO) Emission Limit Determination

The Permittee shall determine actual CO emissions from HHP15 for each calendar month using the following equation:

CO emissions = (Diesel fuel burned in tz1 by HHP15 x COEFtz1df) +
(Diesel fuel burned in tz2 by HHP15 x COEFtz2df) +
(Diesel fuel burned in tz3 by HHP15 x COEFtz3df)

+

(Diesel fuel burned in HHP15 when DOC is not in operation x COEFepatestcells.df)

+

(Biodiesel fuel burned in tz1 by HHP15 x COEFtz1bd) +
(Biodiesel fuel burned in tz2 by HHP15 x COEFtz2bd) +
(Biodiesel fuel burned in tz3 by HHP15 x COEFtz3bd)

+

(Biodiesel fuel burned in HHP15 when DOC is not in operation x COEFepatestcells.bdf)

+

(Natural Gas burned in tz1 by HHP15 x COEFtz1ng) +
(Natural Gas burned in tz2 by HHP15 x COEFtz2ng) +
(Natural Gas burned in tz3 by HHP15 x COEFtz3ng)

+

(Natural Gas burned in HHP15 when DOC is not in operation x COEFepatestcells.ng)

+

(Natural Gas burned in the HHP15 duct burner x COEFepang)

Where:
tzx is the temperature range for the emission factor measured at the inlet of the DOC and will be the same ranges for test engines HHP1, HHP6 through HHP14

COEFtzx.xx is the measured CO emission factor determined from the most recent valid stack test for the temperature range x for fuel xx when DOC is operating

COEFepatestcells.df is the USEPA emission factor for the test cells burning diesel fuels - used when DOC is not operating

COEFepatestcelss.bdf is the USEPA emission factor for test cells burning biodiesel fuel - used when DOC is not operating

COEFepatestcells.ng is the USEPA emission factor for test cells burning natural gas - used when DOC is not operating

COEFepang is the USEPA CO emission factor for the duct burner burning natural gas (AP 42 4-1)

D.5.5 Nitrogen Oxide (NOx) Control

In order to ensure compliance with Condition D.5.1(b), the NOx emissions from HHP15 shall be controlled with selective catalytic reduction (SCR). HHP15 may be operated without the SCR control system with emissions reported as specified in D.5.6.

D.5.6 Nitrogen Oxide (NOx) Emission Limit Determination

The Permittee shall determine actual NOx emissions from HHP15 for each calendar month using the following equation:

NOx emissions = (Diesel fuel burned in tz1 by HHP15 x EFtz1df) +
(Diesel fuel burned in tz2 by HHP15 x EFtz2df) +
(Diesel fuel burned in tz3 by HHP15 x EFtz3df) +
(Diesel fuel burned in tz4 by HHP15 x EFtz4df) +
(Diesel fuel burned in tz5 by HHP15 x EFtz5df)+
(Diesel fuel burned in tz6 by HHP15 x EFtz6df) +
(Diesel fuel burned in tz7 by HHP15 x EFtz7df)

+

(Diesel fuel burned in HHP15 when SCR is not in operation x EFnocontrol.df)

+

(Biodiesel fuel burned in tz1 by HHP15 x EFtz1bd) +
(Biodiesel fuel burned in tz2 by HHP15 x EFtz2bd) +
(Biodiesel fuel burned in tz3 by HHP15 x EFtz3bd) +
(Biodiesel fuel burned in tz4 by HHP15 x EFtz4bd) +
(Biodiesel fuel burned in tz5 by HHP15 x EFtz5bd)+
(Biodiesel fuel burned in tz6 by HHP15 x EFtz6bd) +
(Biodiesel fuel burned in tz7 by HHP15 x EFtz7bd)

+

(Biodiesel fuel burned in HHP15 when SCR is not in operation x EFnocontrol.bdf)

+

(Natural Gas burned in tz1 by HHP15 x EFtz1ng) +
(Natural Gas burned in tz2 by HHP15 x EFtz2ng) +
(Natural Gas burned in tz3 by HHP15 x EFtz3ng) +
(Natural Gas burned in tz4 by HHP15 x EFtz4ng) +
(Natural Gas burned in tz5 by HHP15 x EFtz5ng)+
(Natural Gas burned in tz6 by HHP15 x EFtz6ng) +
(Natural Gas burned in tz7 by HHP15 x EFtz7ng)

+

(Natural Gas burned in HHP15 when SCR is not in operation x EFnocontrol.ng)

+

(Natural Gas burned in the HHP15 duct burner x EFepahiNOx)

Where:
tzx is the temperature range for the emission factor measured at the inlet of the SCR

EFtzx.xx is the measured NOx emission factor determined from the most recent valid stack test for the temperature range x for fuel xx when SCR is operating

EFnocontrol.df is the emission factor for the test cells operating with no SCR control and burning diesel fuel

EFnocontrol.bdf is the emission factor for test cells operating with no SCR control and burning biodiesel fuel

EFnocontrol.ng is the emission factor for test cells operating with no SCR control and burning natural gas

EFepahi NOx is the USEPA NOx emission factor for uncontrolled natural gas duct burner (AP 42 4-1)

D.5.7 Testing Requirements [326 IAC 2-1.1-11]

(a) In order to demonstrate compliance with Condition D.5.1(b) and within sixty (60) days of reaching maximum capacity but no later than one hundred and eighty (180) days after initial startup of the SCR, the Permittee shall conduct NOx emissions stack testing of the emissions from selective catalytic reduction (SCR) on HHP15 utilizing methods as approved by the commissioner. These tests shall be repeated at least once every five years from the date of the most recent valid compliance demonstration on a representative test cell. 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.

(b) In order to demonstrate compliance with Condition D.5.1(b) and within sixty (60) days of reaching maximum capacity but no later than one hundred and eighty (180) days after startup of the test cells, the Permittee shall conduct NOx emissions stack testing of the uncontrolled emissions from HHP15 utilizing methods as approved by the commissioner. This test shall be performed once. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures) or NRPD Air-14-NPD. Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

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(c) In order to demonstrate compliance with Condition D.5.1(a) and within sixty (60) days of reaching maximum capacity but no later than one hundred and eighty (180) days after initial startup of the catalytic oxidizer, the Permittee shall conduct CO emissions stack testing of the emissions from the catalytic oxidizer on HHP15 utilizing methods as approved by the commissioner. These tests shall be repeated at least once every five years from the date of the most recent valid compliance demonstration on a representative test cell. 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 2-7-5(1)][326 IAC 2-7-6(1)]

D.5.8 Visible Emission Notations

(a) Visible emissions notations of the engine test cell stack exhausts HHP15.1 shall be performed once per day during normal daylight operations when combusting diesel fuel or biodiesel. A trained employee will 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 a reasonable response. Observation of abnormal emissions that do not violate an applicable opacity limit is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit. Section C -- Response to Excursions or Exceedances contains the Permittee's obligation with regard to response to excursions or exceedances.

D.5.9 SCR Parametric Monitoring

(a) In order to demonstrate compliance status with Condition D.5.1(b), the Permittee shall monitor the selective catalyst reduction (SCR) temperature and fuel used with a continuous fuel and temperature monitoring system. Fuel consumption will be recorded for each temperature zone tested in Condition D.5.7(a). The Permittee shall comply with the following:

(1) The test cell and SCR shall operate such that the temperature and fuel consumption will be monitored continuously. Failure of either the temperature or fuel monitoring system for more than three (3) hours will require reasonable response steps to be taken to return the system to normal operation. Failure to take response steps shall be considered as a deviation from the permit. Section C -- Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition.

(2) In order to demonstrate compliance with Condition D.5.1(b), the Permittee shall continuously monitor the urea flow rate used in conjunction with the test cell SCR. The urea flow rate will be compared to the corresponding inlet NO and NO_2 load and the SCR temperature based performance characteristics. If the urea flow rate does not correlate with that of the most recent stack test specified in Condition D.5.7(a), the Permittee shall take reasonable response steps. Failure to take response steps shall be considered as a deviation from the permit. Section C -- Response to Excursions or Exceedances contains the obligation with regard to the reasonable response steps required by this condition.

(b) The Permittee shall submit a compliance monitoring plan within 60 days after the permit is issued outlining the approach for demonstrating compliance with section 5.9(a).

(c) Section C -- Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Excursions defined in Section 5.9(a) requires reasonable response steps. Failure to take response steps shall be considered a deviation from this permit.

D.5.10 Oxidation Catalyst Parametric Monitoring [40 CFR 64]

(a) In order to demonstrate the compliance status with Condition D.5.1(a), the Permittee shall monitor the Diesel Oxidation Catalyst (DOC) temperature and fuel used by the test cell with a continuous fuel and temperature monitoring system. Fuel consumption will be recorded for each temperature zone tested in Condition D.5.7(c). For the purposes of this condition, continuous monitoring means recording the temperature no less often than every 15 minutes. The output of this system shall be recorded as a three (3) hour average. The Permittee shall comply with the following:

(1) The test cell and the DOC shall be operated such that the temperature will be monitored continuously. Failure of either the temperature or fuel monitoring system for more than three (3) hours will require reasonable response steps to

be taken to return the system to normal operation. Failure to take response steps shall be considered as a deviation from the permit. Section C -- Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition.

(2) In order to demonstrate compliance status with Conditions D.5.1(a), the Permittee shall monitor the performance characteristics of the DOC using a portable analyzer in accordance with an approved compliance monitoring plan identified in section D.5.10(b). If the performance characteristics of the DOC as measured by the portable analyzer do not correlate with those established during the most recent stack test specified in Condition D.5.7(c), the Permittee shall take reasonable response steps. Failure to take response steps shall be considered as a deviation from the permit. Section C -- Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition.

(b) The Permittee will submit a compliance monitoring plan within 60 days after the permit is issued outlining the approach for demonstrating compliance with section 5.10(a).

(c) Section C -- Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Excursions defined in Section 5.10(a) require reasonable response steps. Failure to take response steps shall be considered a deviation from this permit.

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

D.5.11 Record Keeping Requirements

(a) To document the compliance status with Condition D.5.1(a) and D.5.1(b), the Permittee shall maintain records in accordance with (1) and (2) below:

(1) Calendar dates covered in the compliance determination period; and

(2) Actual diesel, biodiesel fuel oil and natural gas, usage since last compliance determination period and equivalent NOx and CO emissions.

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.5.8 - Visible Emission Notation, the Permittee shall maintain records of daily visible emission notations of the engine test cell stack exhausts HHP15.1 when combusting diesel fuel or biodiesel. 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) In order to document the compliance status with Condition D.5.9, the Permittee shall maintain records of the urea flow rate and the SCR temperature used in conjunction with the test cells. The Permittee shall include in its daily record when a flow rate and temperature reading are not taken and the reason for the lack of a flow rate and temperature reading (e.g. the process did not operate that day).

(d) In order to document the compliance status with Condition D.5.10, the Permittee shall maintain continuous temperature records (on a three (3) hourly average basis) for each oxidation catalyst to demonstrate compliance.

(e) Section C -- General Record Keeping Requirements contains the Permittee's obligation with regard to record keeping.

D.5.12 Reporting Requirements

A quarterly summary of the information to document the compliance status with condition D.5.1 shall be submitted using the reporting form located at the end of this permit, or their equivalent, not later than thirty (30) days following the end of each calendar quarter. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined in 326 IAC 2-7-1(34). Section C -- General Reporting Requirements contains the Permittee's obligations with regard to the reporting required by this condition.

SECTION E.1 Standards of Performance for Stationary Compression Ignition Internal Combustion Engines [326 IAC 12] [40 CFR Part 60, Subpart IIII]

Emissions Unit Description:

(s) One (1) Hedgehog Block Line, approved for construction in 2013, and consisting of the following units:

(3) One (1) emergency diesel generator, identified as emergency generator, with a rating of 1482 hp, and exhausting outdoors;

(4) One (1) emergency diesel fire pump, identified as fire pump, with a rating of 175 hp, and exhausting outdoors;

Insignificant Activities:

(e) One (1) emergency diesel powered generator, permitted in 2012, with maximum capacity of 1,490 horse power.

Under 40 CFR 60, Subpart IIII, the emergency generator and engine test cells are affected sources.

(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) [40 CFR Part 60]

E.1.1 General Provisions Relating to NSPS [326 IAC 12] [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 the emergency generators described in this section except when otherwise specified in Table 8 to 40 CFR Part 60, Subpart IIII.

E.1.2 Standards of Performance for Stationary Compression Ignition Internal Combustion Engines [326 IAC 12] [40 CFR Part 60, Subpart IIII]

The Permittee shall comply with the following provisions of 40 CFR 60, Subpart IIII (Standards of Performance for Stationary Compression Ignition Internal Combustion Engines), which are included as Attachment B as specified as follows:

(a) The emergency generator is subject to the following portions of Subpart IIII:

(1) 40 CFR 60.4200(a)(2), (a)(3), and (d)
(2) 40 CFR 60.4205(b)
(3) 40 CFR 60.4206
(4) 40 CFR 60.4207(b)
(5) 40 CFR 60.4208
(6) 40 CFR 60.4209
(7) 40 CFR 60.4211(c)
(8) 40 CFR 60.4212
(9) 40 CFR 60.4214(b) and (c)
(10) 40 CFR 60.4218
(11) 40 CFR 60.4219
(12) Table 2 to Subpart IIII
(13) Table 5 to Subpart IIII
(14) Table 8 to Subpart IIII

(b) The emergency generator to the Hedgehog block line is subject to the following portions of Subpart IIII.

(1) 40 CFR 60.4200(a)(2), and (d)
(2) 40 CFR 60.4205(b)
(3) 40 CFR 60.4206
(4) 40 CFR 60.4207(b)
(5) 40 CFR 60.4208
(6) 40 CFR 60.4209
(7) 40 CFR 60.4211(a), (c), (f), and (g)
(8) 40 CFR 60.4212
(9) 40 CFR 60.4214(b), (c), and (d)
(10) 40 CFR 60.4218
(11) 40 CFR 60.4219
(12) Table 5 to Subpart IIII
(13) Table 8 to Subpart IIII

(c) The fire pump engine is subject to the following portions of Subpart IIII.

(1) 40 CFR 60.4200(a)(2), and (d)
(2) 40 CFR 60.4205(c)
(3) 40 CFR 60.4206
(4) 40 CFR 60.4207(b)
(5) 40 CFR 60.4208
(6) 40 CFR 60.4209
(7) 40 CFR 60.4211(a), (c), (f), and (g)
(8) 40 CFR 60.4212
(9) 40 CFR 60.4214(b), (c), and (d)
(10) 40 CFR 60.4218
(11) 40 CFR 60.4219
(12) Table 3 to Subpart IIII
(12) Table 4 to Subpart IIII
(13) Table 8 to Subpart IIII

SECTION E.2 National Emissions Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines [40 CFR Part 63, Subpart ZZZZ] [326 IAC 20-82]

Emissions Unit Description: Insignificant Activities:

(e) One (1) emergency diesel powered generator, permitted in 2012, with maximum capacity of 1,490 horse power.

(s) One (1) Hedgehog Block Line, approved for construction in 2013, and consisting of the following units:

(3) One (1) emergency diesel generator, identified as emergency generator, with a rating of 1482 hp, and exhausting outdoors;

(4) One (1) emergency diesel fire pump, identified as fire pump, with a rating of 175 hp, and exhausting outdoors;

Under 40 CFR 63, Subpart ZZZZ, the emergency generator is a new affected source.

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

National Emissions Standard for Hazardous Air Pollutants (NESHAP) [40 CFR Part 63]

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

The provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference in 326 IAC 20, apply to the emergency generator described in this section except when otherwise specified in Table 8 to 40 CFR Part 63, Subpart ZZZZ.

E.2.2 National Emissions Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines [40 CFR Part 63, Subpart ZZZZ] [326 IAC 20-82]

Pursuant to 40 CFR 63.6595, the Permittee shall comply with the following provisions of 40 CFR 63, Subpart ZZZZ (National Emissions Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines), which are included as Attachment C and incorporated by reference as 326 IAC 20-82 as specified as follows:

The engine plant emergency generator, the Hedgehog block line facility emergency generator and the Hedgehog block line facility fire pump are new affected sources and must comply with the following portions of Subpart ZZZZ, upon start-up.

(1) 40 CFR 63.6580
(2) 40 CFR 63.6585
(3) 40 CFR 63.6590, (a)(2)(iii) and (c)
(4) 40 CFR 63.6595(a)(7)
(5) 40 CFR 63.6665
(6) 40 CFR 63.6670
(7) 40 CFR 63.6675
(8) Table 8 to Subpart ZZZZ

SECTION E.3 National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources [40 CFR Part 63, Subpart HHHHHH]

Emissions Unit Description:

(a1) One (1) paint spray line, identified as EU-01, consisting of the following equipment:

(1) Two (2) primer and topcoat spray booths, identified as EU-01G and EU-01H, approved for construction in 2011, with a maximum capacity of 3 engines per hour, equipped with dry filters for overspray control, exhausting to stacks S9 and S10.

(2) One (1) offline spray booth, identified as EU-01I, approved for construction in 2011, with a maximum capacity of 3 engines per hour, equipped with dry filters for overspray control, exhausting to stack S11.

(3) One (1) primer and topcoat spray booth, identified as EU-01J, approved for construction in 2011, with a maximum capacity of 0.5 engines per hour, equipped with dry filters for overspray control, exhausting to stack S12.

(4) One (1) primer and topcoat spray booth, identified as EU-01K, approved for construction in 2011, with a maximum capacity of 0.5 engines per hour, equipped with dry filters for overspray control, exhausting to stack S13.

Under 40 CFR 63, Subpart HHHHHH, the paint spray line, identified as EU-01, is an existing affected area source.

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

National Emissions Standard for Hazardous Air Pollutants (NESHAP) [40 CFR Part 63]

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

The provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference in 326 IAC 20, apply to the paint spray line, identified as EU-01, described in this section whenever coatings are used that contain one of the target HAPs (chromium (Cr), lead (Pb), manganese (Mn), nickel (Ni), or cadmium (Cd)) except when otherwise specified in Table 1 to 40 CFR Part 63, Subpart HHHHHH.

E.3.2 National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources [40 CFR Part 63, Subpart HHHHHH]

Pursuant to 40 CFR 63.11172, the Permittee shall comply with the following provisions of 40 CFR 63, Subpart HHHHHH (National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources), which are included as Attachment D for the paint spray line, identified as EU-01, described in this section whenever coatings are used that contain one of the target HAPs (chromium (Cr), lead (Pb), manganese (Mn), nickel (Ni), or cadmium (Cd)), on and after the initial compliance date of January 10, 2011, as specified as follows:

(1) 40 CFR 63.11169, (c), (d)(4), (d)(5)
(2) 40 CFR 63.11170(a), (a)(3), (b)
(3) 40 CFR 63.11171
(4) 40 CFR 63.11172, (b)

(5) 40 CFR 63.11173(e), (e)(1), (e)(2)(i), (e)(2)(iii), (e)(2)(iv), (e)(3), (e)(4), (e)(5), (f), (g), (g)(2), (g)(3)
(6) 40 CFR 63.11174
(7) 40 CFR 63.11175
(8) 40 CFR 63.11176
(9) 40 CFR 63.11177
(10) 40 CFR 63.11178
(11) 40 CFR 63.11179
(12) 40 CFR 63.11180
(13) Table 1 to Subpart HHHHHH

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY

PART 70 OPERATING PERMIT
CERTIFICATION

Source Name:	Cummins Inc., Seymour Engine Plant (SEP)
Source Address:	800 East Third Street, Seymour, Indiana 47274
Part 70 Permit Renewal No.:	T 071-30358-00015

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

Please check what document is being certified:

☐ Annual Compliance Certification Letter

☐ Test Result (specify): ____________________

☐ Report (specify): ____________________

☐ Notification (specify): ____________________

☐ Affidavit (specify): ____________________

☐ Other (specify): ____________________

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. Signature:
Printed Name:
Title/Position:
Phone:
Date:

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

100 North Senate Avenue
MC 61-53, IGCN 1003
Indianapolis, Indiana 46204-2251
Phone: 317-233-0178
Fax: 317-233-6865

PART 70 OPERATING PERMIT
EMERGENCY OCCURRENCE REPORT

Source Name:	Cummins Inc., Seymour Engine Plant (SEP)
Source Address:	800 East Third Street, Seymour, Indiana 47274
Part 70 Permit Renewal No.:	T 071-30358-00015

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), no later than four (**4**) daytime business hours (1-800-451-6027 or 317-233-0178, ask for Compliance and Enforcement Branch); and
- The Permittee must submit notice in writing or by facsimile no later than 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

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_2 ☐ VOC ☐ NO_X ☐ 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 BRANCH

Part 70 Quarterly Report for Fuel Usage Limit

Source Name:	Cummins Inc., Seymour Engine Plant (SEP)
Source Address:	800 East Third Street, Seymour, Indiana 47274
Part 70 Permit Renewal No.:	T 071-30358-00015
Facilities:	Seventeen (17) engine test cells, known as EU-02A, EU-02B and EU-02C
Parameter:	NO_X Emissions
Limit:	NO_X emissions shall not exceed 217.9 tons of NO_X per twelve (12) consecutive month period

YEAR: _____

Month	This Month			Previous 11 Months			12 Month Total		
	EU-02 Diesel Fuel, biodiesel or propane (gallons)		EU-02 Equivalent NO_X (tons) A + (B + C)	EU-02 Diesel Fuel, biodiesel or propane (gallons)		EU-02 Equivalent NO_X (tons) A + (B + C)	EU-02 Diesel Fuel, biodiesel or propane (gallons)		EU-02 Equivalent NO_X (tons) A + (B + C)
	A	B + C		A	B + C		A	B + C	
	Natural Gas (cubic feet)			Natural Gas (cubic feet)			Natural Gas (cubic feet)		
	A	B		A	B		A	B	

Total NO_X Emissions from Diesel Fuel, Natural Gas, biodiesel or propane	Month	Month	Month
12 Month Total (tons)			

☐ No deviation occurred in this quarter.

☐ Deviations 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

Part 70 Quarterly Report

Source Name: Cummins Inc., Seymour Engine Plant (SEP)
Source Address: 800 East Third Street, Seymour, Indiana 47274
Part 70 Permit Renewal No.: T 071-30358-00015
Facility: EU-02B and EU-02C
Parameter: VOC Emissions
Limit: Less than 163.56 tons per twelve (12) consecutive month period.

YEAR: _____

Month	**VOC Emissions for This Month** (tons)	**VOC Emissions for Previous 11 Months** (tons)	**VOC Emissions for 12-Month Period** (tons)

☐ No deviation occurred in this quarter.

☐ Deviations 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

Part 70 Quarterly Report

Source Name: Cummins Inc., Seymour Engine Plant (SEP)
Source Address: 800 East Third Street, Seymour, Indiana 47274
Part 70 Permit Renewal No.: T 071-30358-00015
Facility: EU-02B and EU-02C
Parameter: CO Emissions
Limit: Less than 183.62 tons per twelve (12) consecutive month period.

YEAR: _____

Month	CO Emissions for This Month (tons)	CO Emissions for Previous 11 Months(tons)	CO Emissions for 12-Month Period (tons)

☐ No deviation occurred in this quarter.

☐ Deviations 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

Part 70 Quarterly Report

Source Name: Cummins Inc., Seymour Engine Plant (SEP)
Source Address: 800 East Third Street, Seymour, Indiana 47274
Part 70 Permit Renewal No.: T 071-30358-00015
Facility: Six (6) engine test cells HHP1, HHP6-HHP10, four (4) Production Lines HHP11-HHP14,boilers, ten (10) duct burners, emergency generator and air handling units, dry and curing combustion units and unit heaters
Parameter: NOx Emissions
Limit: Less than 243 tons per twelve (12) consecutive month period.

YEAR: _____

Month	Total NOx Emissions for This Month (tons)	Total NOx Emissions for Previous 11 Months (tons)	Total NOx Emissions for 12-Month Period (tons)

☐ No deviation occurred in this quarter.

☐ Deviations 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

Part 70 Quarterly Report

Source Name: Cummins Inc., Seymour Engine Plant (SEP)
Source Address: 800 East Third Street, Seymour, Indiana 47274
Part 70 Permit Renewal No.: T 071-30358-00015
Facility: One (1) engine test cell HHP15, one (1) duct burner,
Parameter: NOx Emissions
Limit: Shall not exceed 39 tons per twelve (12) consecutive month period.

YEAR: _____

Month	Total NOx Emissions for This Month (tons)	Total NOx Emissions for Previous 11 Months (tons)	Total NOx Emissions for 12-Month Period (tons)

☐ No deviation occurred in this quarter.

☐ Deviations 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

Part 70 Quarterly Report

Source Name: Cummins Inc., Seymour Engine Plant (SEP)
Source Address: 800 East Third Street, Seymour, Indiana 47274
Part 70 Permit Renewal No.: T 071-30358-00015
Facility: Six (6) engine test cells HHP1, HHP6-HHP10, four (4) Production Lines HHP11-HHP14, boilers, ten (10) duct burners, emergency generator and air handling units, dry and curing combustion units and unit heaters
Parameter: CO Emissions
Limit: Less than 243 tons per twelve (12) consecutive month period.

YEAR: _____

Month	Total CO Emissions for This Month (tons)	Total CO Emissions for Previous 11 Months (tons)	Total CO Emissions for 12-Month Period (tons)

☐ No deviation occurred in this quarter.

☐ Deviations 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

Part 70 Quarterly Report

Source Name: Cummins Inc., Seymour Engine Plant (SEP)
Source Address: 800 East Third Street, Seymour, Indiana 47274
Part 70 Permit Renewal No.: T 071-30358-00015
Facility: HHP15
Parameter: CO Emissions
Limit: Shall not exceed 99 tons per twelve (12) consecutive month period.

YEAR: _____

Month	CO Emissions for This Month (tons)	CO Emissions for Previous 11 Months (tons)	CO Emissions for 12-Month Period (tons)

☐ No deviation occurred in this quarter.

☐ Deviations 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

Part 70 Quarterly Report

Source Name: Cummins Inc., Seymour Engine Plant (SEP)
Source Address: 800 East Third Street, Seymour, Indiana 47274
Part 70 Permit Renewal No.: T 071-30358-00015
Facility: Six (6) engine test cells HHP1, HHP6-HHP10, four (4) Production Lines HHP11-HHP14, boilers ten (10) duct burners, emergency generator and air handling units, dry and curing combustion units and unit heaters
Parameter: VOC Emissions
Limit: Less than 248 tons per twelve (12) consecutive month period.

YEAR: _____

Month	Total VOC Emissions for This Month (tons)	Total VOC Emissions for Previous 11 Months (tons)	Total VOC Emissions for 12-Month Period (tons)

☐ No deviation occurred in this quarter.

☐ Deviations 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

Part 70 Quarterly Report

Source Name: Cummins Inc., Seymour Engine Plant (SEP)
Source Address: 800 East Third Street, Seymour, Indiana 47274
Part 70 Permit Renewal No.: T 071-30358-00015
Facility: Eight (8) engine test cells (HHP801-808 and HHP2-HHP5), and four (4) Test Pad 8-11
Parameter: CO2e Emissions
Limit: Less than 99,000 tons per twelve (12) consecutive month period.

YEAR: _____

Month	Total CO2e Emissions for This Month (tons)	Total CO2e Emissions for Previous 11 Months (tons)	Total CO2e Emissions for 12-Month Period (tons)

☐ No deviation occurred in this quarter.

☐ Deviations 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

Part 70 Quarterly Report

Source Name: Cummins Inc., Seymour Engine Plant (SEP)
Source Address: 800 East Third Street, Seymour, Indiana 47274
Part 70 Permit Renewal No.: T 071-30358-00015
Facility: Six (6) engine test cells HHP1, HHP6 - HHP10), four (4) Production Lines (HHP11-HHP14), new paint lines, boilers, ten (10) duct burners emergency generator and air handling units, dry and curing combustion units and unit heaters
Parameter: CO2e Emissions
Limit: Less than 99,000 tons per twelve (12) consecutive month period.

YEAR: _____

Month	Total CO2e Emissions for This Month (tons)	Total CO2e Emissions for Previous 11 Months (tons)	Total CO2e Emissions for 12-Month Period (tons)

☐ No deviation occurred in this quarter.

☐ Deviations 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

Part 70 Quarterly Report

Source Name: Cummins Inc., Seymour Engine Plant (SEP)
Source Address: 800 East Third Street, Seymour, Indiana 47274
Part 70 Permit Renewal No.: T 071-30358-00015
Facility: Twenty-seven test cells, Paint spray line booth, 1490 hp emergency generator and natural gas combustion equipments
Parameter: Single HAP Emissions
Limit: Less than 9.5 tons per year for any single HAP per twelve (12) consecutive month period

YEAR: _____

Month	**Single HAP Emissions for This Month** (tons)	**Single HAP Emissions for Previous 11 Months** (tons)	**Single HAP Emissions for 12-Month Period** (tons)

☐ No deviation occurred in this quarter.

☐ Deviations 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

Part 70 Quarterly Report

Source Name: Cummins Inc., Seymour Engine Plant (SEP)
Source Address: 800 East Third Street, Seymour, Indiana 47274
Part 70 Permit Renewal No.: T 071-30358-00015
Facility: Twenty-seven test cells, Paint spray line booth, 1490 hp emergency generator and natural gas combustion equipments
Parameter: Total HAP Emissions
Limit: Less than 24 tons per year for total HAPs per twelve (12) consecutive month period

YEAR: _____

Month	**Total HAP Emissions for This Month** (tons)	**Total HAP Emissions for Previous 11 Months** (tons)	**Total HAP Emissions for 12-Month Period** (tons)

☐ No deviation occurred in this quarter.

☐ Deviations 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

PART 70 OPERATING PERMIT
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

Source Name: Cummins Inc., Seymour Engine Plant (SEP)
Source Address: 800 East Third Street, Seymour, Indiana 47274
Part 70 Permit Renewal No.: T 071-30358-00015

Months: ________ to ________ Year: _______

Page 1 of 2

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".
☐ NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.
☐ THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD
Permit Requirement (specify permit condition #)
Date of Deviation: **Duration of Deviation:**
Number of Deviations:
Probable Cause of Deviation:
Response Steps Taken:
Permit Requirement (specify permit condition #)
Date of Deviation: **Duration of Deviation:**
Number of Deviations:
Probable Cause of Deviation:
Response Steps Taken:

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

Form Completed By: ______________________________

Title/Position: ______________________________

Date: ______________________________

Phone: ______________________________

Attachment A
To Part 70 Operating Permit Renewal No. 071-30358-00015

Title 40: Protection of Environment

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

Subpart Kb—Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984

SOURCE: 52 FR 11429, Apr. 8, 1987, unless otherwise noted.

What This Subpart Covers

§ 60.110b Applicability and designation of affected facility.

(a) Except as provided in paragraph (b) of this section, the affected facility to which this subpart applies is each storage vessel with a capacity greater than or equal to 75 cubic meters (m^3) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984.

(b) This subpart does not apply to storage vessels with a capacity greater than or equal to 151 m^3 storing a liquid with a maximum true vapor pressure less than 3.5 kilopascals (kPa) or with a capacity greater than or equal to 75 m^3 but less than 151 m^3 storing a liquid with a maximum true vapor pressure less than 15.0 kPa.

(c) [Reserved]

(d) This subpart does not apply to the following:

(1) Vessels at coke oven by-product plants.

(2) Pressure vessels designed to operate in excess of 204.9 kPa and without emissions to the atmosphere.

(3) Vessels permanently attached to mobile vehicles such as trucks, railcars, barges, or ships.

(4) Vessels with a design capacity less than or equal to 1,589.874 m^3 used for petroleum or condensate stored, processed, or treated prior to custody transfer.

(5) Vessels located at bulk gasoline plants.

(6) Storage vessels located at gasoline service stations.

(7) Vessels used to store beverage alcohol.

(8) Vessels subject to subpart GGGG of 40 CFR part 63.

(e) *Alternative means of compliance* —(1) *Option to comply with part 65.* Owners or operators may choose to comply with 40 CFR part 65, subpart C, to satisfy the requirements of §§ 60.112b through 60.117b for storage vessels that are subject to this subpart that meet the specifications in paragraphs (e)(1)(i) and (ii) of this section. When choosing to comply with 40 CFR part 65, subpart C, the monitoring requirements of § 60.116b(c), (e), (f)(1), and (g) still apply. Other provisions applying to owners or operators who choose to comply with 40 CFR part 65 are provided in 40 CFR 65.1.

(i) A storage vessel with a design capacity greater than or equal to 151 m^3 containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 5.2 kPa; or

(ii) A storage vessel with a design capacity greater than 75 m^3 but less than 151 m^3 containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 27.6 kPa.

(2) *Part 60, subpart A.* Owners or operators who choose to comply with 40 CFR part 65, subpart C, must also comply with §§ 60.1, 60.2, 60.5, 60.6, 60.7(a)(1) and (4), 60.14, 60.15, and 60.16 for those storage vessels. All sections and paragraphs of subpart A of this part that are not mentioned in this paragraph (e)(2) do not apply to owners or operators of storage vessels complying with 40 CFR part 65, subpart C, except that provisions required to be met prior to implementing 40 CFR part 65 still apply. Owners and operators who choose to comply with 40 CFR part 65, subpart C, must comply with 40 CFR part 65, subpart A.

(3) *Internal floating roof report.* If an owner or operator installs an internal floating roof and, at initial startup, chooses to comply with 40 CFR part 65, subpart C, a report shall be furnished to the Administrator stating that the control equipment meets the specifications of 40 CFR 65.43. This report shall be an attachment to the notification required by 40 CFR 65.5(b).

(4) *External floating roof report.* If an owner or operator installs an external floating roof and, at initial startup, chooses to comply with 40 CFR part 65, subpart C, a report shall be furnished to the Administrator stating that the control equipment meets the specifications of 40 CFR 65.44. This report shall be an attachment to the notification required by 40 CFR 65.5(b).

[52 FR 11429, Apr. 8, 1987, as amended at 54 FR 32973, Aug. 11, 1989; 65 FR 78275, Dec. 14, 2000; 68 FR 59332, Oct. 15, 2003]

§ 60.111b Definitions.

Terms used in this subpart are defined in the Act, in subpart A of this part, or in this subpart as follows:

Bulk gasoline plant means any gasoline distribution facility that has a gasoline throughput less than or equal to 75,700 liters per day. Gasoline throughput shall be the maximum calculated design throughput as may be limited by compliance with an enforceable condition under Federal requirement or Federal, State or local law, and discoverable by the Administrator and any other person.

Condensate means hydrocarbon liquid separated from natural gas that condenses due to changes in the temperature or pressure, or both, and remains liquid at standard conditions.

Custody transfer means the transfer of produced petroleum and/or condensate, after processing and/or treatment in the producing operations, from storage vessels or automatic transfer facilities to pipelines or any other forms of transportation.

Fill means the introduction of VOL into a storage vessel but not necessarily to complete capacity.

Gasoline service station means any site where gasoline is dispensed to motor vehicle fuel tanks from stationary storage tanks.

Maximum true vapor pressure means the equilibrium partial pressure exerted by the volatile organic compounds (as defined in 40 CFR 51.100) in the stored VOL at the temperature equal to the highest calendar-month average of the VOL storage temperature for VOL's stored above or below the ambient temperature or at the local maximum monthly average temperature as reported by the National Weather Service for VOL's stored at the ambient temperature, as determined:

(1) In accordance with methods described in American Petroleum institute Bulletin 2517, Evaporation Loss From External Floating Roof Tanks, (incorporated by reference—see § 60.17); or

(2) As obtained from standard reference texts; or

(3) As determined by ASTM D2879-83, 96, or 97 (incorporated by reference—see § 60.17);

(4) Any other method approved by the Administrator.

Petroleum means the crude oil removed from the earth and the oils derived from tar sands, shale, and coal.

Petroleum liquids means petroleum, condensate, and any finished or intermediate products manufactured in a petroleum refinery.

Process tank means a tank that is used within a process (including a solvent or raw material recovery process) to collect material discharged from a feedstock storage vessel or equipment within the process before the material is transferred to other equipment within the process, to a product or by-product storage vessel, or to a vessel used to store recovered solvent or raw material. In many process tanks, unit operations such as reactions and blending are conducted. Other process tanks, such as surge control vessels and bottoms receivers, however, may not involve unit operations.

Reid vapor pressure means the absolute vapor pressure of volatile crude oil and volatile nonviscous petroleum liquids except liquified petroleum gases, as determined by ASTM D323-82 or 94 (incorporated by reference—see § 60.17).

Storage vessel means each tank, reservoir, or container used for the storage of volatile organic liquids but does not include:

(1) Frames, housing, auxiliary supports, or other components that are not directly involved in the containment of liquids or vapors;

(2) Subsurface caverns or porous rock reservoirs; or

(3) Process tanks.

Volatile organic liquid (VOL) means any organic liquid which can emit volatile organic compounds (as defined in 40 CFR 51.100) into the atmosphere.

Waste means any liquid resulting from industrial, commercial, mining or agricultural operations, or from community activities that is discarded or is being accumulated, stored, or physically, chemically, or biologically treated prior to being discarded or recycled.

[52 FR 11429, Apr. 8, 1987, as amended at 54 FR 32973, Aug. 11, 1989; 65 FR 61756, Oct. 17, 2000; 68 FR 59333, Oct. 15, 2003]

§ 60.112b Standard for volatile organic compounds (VOC).

(a) The owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m^3 containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 5.2 kPa but less than 76.6 kPa or with a design capacity greater than or equal to 75 m^3 but less than 151 m^3 containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 27.6 kPa but less than 76.6 kPa, shall equip each storage vessel with one of the following:

(1) A fixed roof in combination with an internal floating roof meeting the following specifications:

(i) The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof. The internal floating roof shall be floating on the liquid surface at all times, except during initial fill and during those intervals when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible.

(ii) Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof:

(A) A foam- or liquid-filled seal mounted in contact with the liquid (liquid-mounted seal). A liquid-mounted seal means a foam- or liquid-filled seal mounted in contact with the liquid between the wall of the storage vessel and the floating roof continuously around the circumference of the tank.

(B) Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor-mounted, but both must be continuous.

(C) A mechanical shoe seal. A mechanical shoe seal is a metal sheet held vertically against the wall of the storage vessel by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.

(iii) Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.

(iv) Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use.

(v) Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports.

(vi) Rim space vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting.

(vii) Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening.

(viii) Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover.

(ix) Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.

(2) An external floating roof. An external floating roof means a pontoon-type or double-deck type cover that rests on the liquid surface in a vessel with no fixed roof. Each external floating roof must meet the following specifications:

(i) Each external floating roof shall be equipped with a closure device between the wall of the storage vessel and the roof edge. The closure device is to consist of two seals, one above the other. The lower seal is referred to as the primary seal, and the upper seal is referred to as the secondary seal.

(A) The primary seal shall be either a mechanical shoe seal or a liquid-mounted seal. Except as provided in § 60.113b(b)(4), the seal shall completely cover the annular space between the edge of the floating roof and tank wall.

(B) The secondary seal shall completely cover the annular space between the external floating roof and the wall of the storage vessel in a continuous fashion except as allowed in § 60.113b(b)(4).

(ii) Except for automatic bleeder vents and rim space vents, each opening in a noncontact external floating roof shall provide a projection below the liquid surface. Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof is to be equipped with a gasketed cover, seal, or lid that is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. Automatic bleeder vents are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports. Rim vents are to be set to open when the roof is being floated off the roof legs supports or at the manufacturer's recommended setting. Automatic bleeder vents and rim space vents are to be gasketed. Each emergency roof drain is to be provided with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening.

(iii) The roof shall be floating on the liquid at all times (i.e., off the roof leg supports) except during initial fill until the roof is lifted off leg supports and when the tank is completely emptied and subsequently refilled. The process of filling, emptying, or refilling when the roof is resting on the leg supports shall be continuous and shall be accomplished as rapidly as possible.

(3) A closed vent system and control device meeting the following specifications:

(i) The closed vent system shall be designed to collect all VOC vapors and gases discharged from the storage vessel and operated with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background and visual inspections, as determined in part 60, subpart VV, § 60.485(b).

(ii) The control device shall be designed and operated to reduce inlet VOC emissions by 95 percent or greater. If a flare is used as the control device, it shall meet the specifications described in the general control device requirements (§ 60.18) of the General Provisions.

(4) A system equivalent to those described in paragraphs (a)(1), (a)(2), or (a)(3) of this section as provided in § 60.114b of this subpart.

(b) The owner or operator of each storage vessel with a design capacity greater than or equal to 75 m^3 which contains a VOL that, as stored, has a maximum true vapor pressure greater than or equal to 76.6 kPa shall equip each storage vessel with one of the following:

(1) A closed vent system and control device as specified in § 60.112b(a)(3).

(2) A system equivalent to that described in paragraph (b)(1) as provided in § 60.114b of this subpart.

(c) *Site-specific standard for Merck & Co., Inc.'s Stonewall Plant in Elkton, Virginia.* This paragraph applies only to the pharmaceutical manufacturing facility, commonly referred to as the Stonewall Plant, located at Route 340 South, in Elkton, Virginia ("site").

(1) For any storage vessel that otherwise would be subject to the control technology requirements of paragraphs (a) or (b) of this section, the site shall have the option of either complying directly with the requirements of this subpart, or reducing the site-wide total criteria pollutant emissions cap (total emissions cap) in accordance with the procedures set forth in a permit issued pursuant to 40 CFR 52.2454. If the site chooses the option of reducing the total emissions cap in accordance with the procedures set forth in such permit, the requirements of such permit shall apply in lieu of the otherwise applicable requirements of this subpart for such storage vessel.

(2) For any storage vessel at the site not subject to the requirements of 40 CFR 60.112b (a) or (b), the requirements of 40 CFR 60.116b (b) and (c) and the General Provisions (subpart A of this part) shall not apply.

[52 FR 11429, Apr. 8, 1987, as amended at 62 FR 52641, Oct. 8, 1997]

§ 60.113b Testing and procedures.

The owner or operator of each storage vessel as specified in § 60.112b(a) shall meet the requirements of paragraph (a), (b), or (c) of this section. The applicable paragraph for a particular storage vessel depends on the control equipment installed to meet the requirements of § 60.112b.

(a) After installing the control equipment required to meet § 60.112b(a)(1) (permanently affixed roof and internal floating roof), each owner or operator shall:

(1) Visually inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service), prior to filling the storage vessel with VOL. If there are holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric or defects in the internal floating roof, or both, the owner or operator shall repair the items before filling the storage vessel.

(2) For Vessels equipped with a liquid-mounted or mechanical shoe primary seal, visually inspect the internal floating roof and the primary seal or the secondary seal (if one is in service) through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill. If the internal floating roof is not resting on the surface of the VOL inside the storage vessel, or there is liquid accumulated on the roof, or the seal is detached, or there are holes or tears in the seal fabric, the owner or operator shall repair the items or empty and remove the storage vessel from service within 45 days. If a failure that is detected during inspections required in this paragraph cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Administrator in the inspection report required in § 60.115b(a)(3). Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible.

(3) For vessels equipped with a double-seal system as specified in § 60.112b(a)(1)(ii)(B):

(i) Visually inspect the vessel as specified in paragraph (a)(4) of this section at least every 5 years; or

(ii) Visually inspect the vessel as specified in paragraph (a)(2) of this section.

(4) Visually inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes and sleeve seals (if any) each time the storage vessel is emptied and degassed. If the internal floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area, the owner or operator shall repair the items as necessary so that none of the conditions specified in this paragraph exist before refilling the storage vessel with VOL. In no event shall inspections conducted in accordance with this provision occur at intervals greater than 10 years in the case of vessels conducting the annual visual inspection as specified in paragraphs (a)(2) and (a)(3)(ii) of this section and at intervals no greater than 5 years in the case of vessels specified in paragraph (a)(3)(i) of this section.

(5) Notify the Administrator in writing at least 30 days prior to the filling or refilling of each storage vessel for which an inspection is required by paragraphs (a)(1) and (a)(4) of this section to afford the Administrator the opportunity to have an observer present. If the inspection required by paragraph (a)(4) of this section is not planned and the owner or operator could not have known about the inspection 30 days in advance or refilling the tank, the owner or operator shall notify the Administrator at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Administrator at least 7 days prior to the refilling.

(b) After installing the control equipment required to meet § 60.112b(a)(2) (external floating roof), the owner or operator shall:

(1) Determine the gap areas and maximum gap widths, between the primary seal and the wall of the storage vessel and between the secondary seal and the wall of the storage vessel according to the following frequency.

(i) Measurements of gaps between the tank wall and the primary seal (seal gaps) shall be performed during the hydrostatic testing of the vessel or within 60 days of the initial fill with VOL and at least once every 5 years thereafter.

(ii) Measurements of gaps between the tank wall and the secondary seal shall be performed within 60 days of the initial fill with VOL and at least once per year thereafter.

(iii) If any source ceases to store VOL for a period of 1 year or more, subsequent introduction of VOL into the vessel shall be considered an initial fill for the purposes of paragraphs (b)(1)(i) and (b)(1)(ii) of this section.

(2) Determine gap widths and areas in the primary and secondary seals individually by the following procedures:

(i) Measure seal gaps, if any, at one or more floating roof levels when the roof is floating off the roof leg supports.

(ii) Measure seal gaps around the entire circumference of the tank in each place where a 0.32-cm diameter uniform probe passes freely (without forcing or binding against seal) between the seal and the wall of the storage vessel and measure the circumferential distance of each such location.

(iii) The total surface area of each gap described in paragraph (b)(2)(ii) of this section shall be determined by using probes of various widths to measure accurately the actual distance from the tank wall to the seal and multiplying each such width by its respective circumferential distance.

(3) Add the gap surface area of each gap location for the primary seal and the secondary seal individually and divide the sum for each seal by the nominal diameter of the tank and compare each ratio to the respective standards in paragraph (b)(4) of this section.

(4) Make necessary repairs or empty the storage vessel within 45 days of identification in any inspection for seals not meeting the requirements listed in (b)(4) (i) and (ii) of this section:

(i) The accumulated area of gaps between the tank wall and the mechanical shoe or liquid-mounted primary seal shall not exceed 212 cm^2 per meter of tank diameter, and the width of any portion of any gap shall not exceed 3.81 cm.

(A) One end of the mechanical shoe is to extend into the stored liquid, and the other end is to extend a minimum vertical distance of 61 cm above the stored liquid surface.

(B) There are to be no holes, tears, or other openings in the shoe, seal fabric, or seal envelope.

(ii) The secondary seal is to meet the following requirements:

(A) The secondary seal is to be installed above the primary seal so that it completely covers the space between the roof edge and the tank wall except as provided in paragraph (b)(2)(iii) of this section.

(B) The accumulated area of gaps between the tank wall and the secondary seal shall not exceed 21.2 cm^2 per meter of tank diameter, and the width of any portion of any gap shall not exceed 1.27 cm.

(C) There are to be no holes, tears, or other openings in the seal or seal fabric.

(iii) If a failure that is detected during inspections required in paragraph (b)(1) of § 60.113b(b) cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Administrator in the inspection report required in § 60.115b(b)(4). Such extension request must include a demonstration of unavailability of alternate storage capacity and a specification of a schedule that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible.

(5) Notify the Administrator 30 days in advance of any gap measurements required by paragraph (b)(1) of this section to afford the Administrator the opportunity to have an observer present.

(6) Visually inspect the external floating roof, the primary seal, secondary seal, and fittings each time the vessel is emptied and degassed.

(i) If the external floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, the owner or operator shall repair the items as necessary so that none of the conditions specified in this paragraph exist before filling or refilling the storage vessel with VOL.

(ii) For all the inspections required by paragraph (b)(6) of this section, the owner or operator shall notify the Administrator in writing at least 30 days prior to the filling or refilling of each storage vessel to afford the Administrator the opportunity to inspect the storage vessel prior to refilling. If the inspection required by paragraph (b)(6) of this section is not planned and the owner or operator could not have known about the inspection 30 days in advance of refilling the tank, the owner or operator shall notify the Administrator at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Administrator at least 7 days prior to the refilling.

(c) The owner or operator of each source that is equipped with a closed vent system and control device as required in § 60.112b (a)(3) or (b)(2) (other than a flare) is exempt from § 60.8 of the General Provisions and shall meet the following requirements.

(1) Submit for approval by the Administrator as an attachment to the notification required by § 60.7(a)(1) or, if the facility is exempt from § 60.7(a)(1), as an attachment to the notification required by § 60.7(a)(2), an operating plan containing the information listed below.

(i) Documentation demonstrating that the control device will achieve the required control efficiency during maximum loading conditions. This documentation is to include a description of the gas stream which enters the control device, including flow and VOC content under varying liquid level conditions (dynamic and static) and manufacturer's design specifications for the control device. If the control device or the closed vent capture system receives vapors, gases, or liquids other than fuels from sources that are not designated sources under this subpart, the efficiency demonstration is to include consideration of all vapors, gases, and liquids received by the closed vent capture system and control device. If an enclosed combustion device with a minimum residence time of 0.75 seconds and a minimum temperature of 816 °C is used to meet the 95 percent requirement, documentation that those conditions will exist is sufficient to meet the requirements of this paragraph.

(ii) A description of the parameter or parameters to be monitored to ensure that the control device will be operated in conformance with its design and an explanation of the criteria used for selection of that parameter (or parameters).

(2) Operate the closed vent system and control device and monitor the parameters of the closed vent system and control device in accordance with the operating plan submitted to the Administrator in accordance with paragraph (c)(1) of this section, unless the plan was modified by the Administrator during the review process. In this case, the modified plan applies.

(d) The owner or operator of each source that is equipped with a closed vent system and a flare to meet the requirements in § 60.112b (a)(3) or (b)(2) shall meet the requirements as specified in the general control device requirements, § 60.18 (e) and (f).

[52 FR 11429, Apr. 8, 1987, as amended at 54 FR 32973, Aug. 11, 1989]

§ 60.114b Alternative means of emission limitation.

(a) If, in the Administrator's judgment, an alternative means of emission limitation will achieve a reduction in emissions at least equivalent to the reduction in emissions achieved by any requirement in § 60.112b, the Administrator will publish in the FEDERAL REGISTER a notice permitting the use of the alternative means for purposes of compliance with that requirement.

(b) Any notice under paragraph (a) of this section will be published only after notice and an opportunity for a hearing.

(c) Any person seeking permission under this section shall submit to the Administrator a written application including:

(1) An actual emissions test that uses a full-sized or scale-model storage vessel that accurately collects and measures all VOC emissions from a given control device and that accurately simulates wind and accounts for other emission variables such as temperature and barometric pressure.

(2) An engineering evaluation that the Administrator determines is an accurate method of determining equivalence.

(d) The Administrator may condition the permission on requirements that may be necessary to ensure operation and maintenance to achieve the same emissions reduction as specified in § 60.112b.

§ 60.115b Reporting and recordkeeping requirements.

The owner or operator of each storage vessel as specified in § 60.112b(a) shall keep records and furnish reports as required by paragraphs (a), (b), or (c) of this section depending upon the control equipment installed to meet the requirements of § 60.112b. The owner or operator shall keep copies of all reports and records required by this section, except for the record required by (c)(1), for at least 2 years. The record required by (c)(1) will be kept for the life of the control equipment.

(a) After installing control equipment in accordance with § 60.112b(a)(1) (fixed roof and internal floating roof), the owner or operator shall meet the following requirements.

(1) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of § 60.112b(a)(1) and § 60.113b(a)(1). This report shall be an attachment to the notification required by § 60.7(a)(3).

(2) Keep a record of each inspection performed as required by § 60.113b (a)(1), (a)(2), (a)(3), and (a)(4). Each record shall identify the storage vessel on which the inspection was performed and shall contain the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings).

(3) If any of the conditions described in § 60.113b(a)(2) are detected during the annual visual inspection required by § 60.113b(a)(2), a report shall be furnished to the Administrator within 30 days of the inspection. Each report shall identify the storage vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of and date the repair was made.

(4) After each inspection required by § 60.113b(a)(3) that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in § 60.113b(a)(3)(ii), a report shall be furnished to the Administrator within 30 days of the inspection. The report shall identify the storage vessel and the reason it did not meet the specifications of § 61.112b(a)(1) or § 60.113b(a)(3) and list each repair made.

(b) After installing control equipment in accordance with § 61.112b(a)(2) (external floating roof), the owner or operator shall meet the following requirements.

(1) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of § 60.112b(a)(2) and § 60.113b(b)(2), (b)(3), and (b)(4). This report shall be an attachment to the notification required by § 60.7(a)(3).

(2) Within 60 days of performing the seal gap measurements required by § 60.113b(b)(1), furnish the Administrator with a report that contains:

(i) The date of measurement.

(ii) The raw data obtained in the measurement.

(iii) The calculations described in § 60.113b (b)(2) and (b)(3).

(3) Keep a record of each gap measurement performed as required by § 60.113b(b). Each record shall identify the storage vessel in which the measurement was performed and shall contain:

(i) The date of measurement.

(ii) The raw data obtained in the measurement.

(iii) The calculations described in § 60.113b (b)(2) and (b)(3).

(4) After each seal gap measurement that detects gaps exceeding the limitations specified by § 60.113b(b)(4), submit a report to the Administrator within 30 days of the inspection. The report will identify the vessel and contain the information specified in paragraph (b)(2) of this section and the date the vessel was emptied or the repairs made and date of repair.

(c) After installing control equipment in accordance with § 60.112b (a)(3) or (b)(1) (closed vent system and control device other than a flare), the owner or operator shall keep the following records.

(1) A copy of the operating plan.

(2) A record of the measured values of the parameters monitored in accordance with § 60.113b(c)(2).

(d) After installing a closed vent system and flare to comply with § 60.112b, the owner or operator shall meet the following requirements.

(1) A report containing the measurements required by § 60.18(f) (1), (2), (3), (4), (5), and (6) shall be furnished to the Administrator as required by § 60.8 of the General Provisions. This report shall be submitted within 6 months of the initial start-up date.

(2) Records shall be kept of all periods of operation during which the flare pilot flame is absent.

(3) Semiannual reports of all periods recorded under § 60.115b(d)(2) in which the pilot flame was absent shall be furnished to the Administrator.

§ 60.116b Monitoring of operations.

(a) The owner or operator shall keep copies of all records required by this section, except for the record required by paragraph (b) of this section, for at least 2 years. The record required by paragraph (b) of this section will be kept for the life of the source.

(b) The owner or operator of each storage vessel as specified in § 60.110b(a) shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel.

(c) Except as provided in paragraphs (f) and (g) of this section, the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m^3 storing a liquid with a maximum true vapor pressure greater than or equal to 3.5 kPa or with a design capacity greater than or equal to 75 m^3 but less than 151 m^3 storing a liquid with a maximum true vapor pressure greater than or equal to 15.0 kPa shall maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period.

(d) Except as provided in paragraph (g) of this section, the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m^3 storing a liquid with a maximum true vapor pressure that is normally less than 5.2 kPa or with a design capacity greater than or equal to 75 m^3 but less than 151 m^3 storing a liquid with a maximum true vapor pressure that is normally less than 27.6 kPa shall notify the Administrator within 30 days when the maximum true vapor pressure of the liquid exceeds the respective maximum true vapor vapor pressure values for each volume range.

(e) Available data on the storage temperature may be used to determine the maximum true vapor pressure as determined below.

(1) For vessels operated above or below ambient temperatures, the maximum true vapor pressure is calculated based upon the highest expected calendar-month average of the storage temperature. For vessels operated at ambient temperatures, the maximum true vapor pressure is calculated based upon the maximum local monthly average ambient temperature as reported by the National Weather Service.

(2) For crude oil or refined petroleum products the vapor pressure may be obtained by the following:

(i) Available data on the Reid vapor pressure and the maximum expected storage temperature based on the highest expected calendar-month average temperature of the stored product may be used to determine the maximum true vapor pressure from nomographs contained in API Bulletin 2517 (incorporated by reference—see § 60.17), unless the Administrator specifically requests that the liquid be sampled, the actual storage temperature determined, and the Reid vapor pressure determined from the sample(s).

(ii) The true vapor pressure of each type of crude oil with a Reid vapor pressure less than 13.8 kPa or with physical properties that preclude determination by the recommended method is to be determined from available data and recorded if the estimated maximum true vapor pressure is greater than 3.5 kPa.

(3) For other liquids, the vapor pressure:

(i) May be obtained from standard reference texts, or

(ii) Determined by ASTM D2879-83, 96, or 97 (incorporated by reference—see § 60.17); or

(iii) Measured by an appropriate method approved by the Administrator; or

(iv) Calculated by an appropriate method approved by the Administrator.

(f) The owner or operator of each vessel storing a waste mixture of indeterminate or variable composition shall be subject to the following requirements.

(1) Prior to the initial filling of the vessel, the highest maximum true vapor pressure for the range of anticipated liquid compositions to be stored will be determined using the methods described in paragraph (e) of this section.

(2) For vessels in which the vapor pressure of the anticipated liquid composition is above the cutoff for monitoring but below the cutoff for controls as defined in § 60.112b(a), an initial physical test of the vapor pressure is required; and a physical test at least once every 6 months thereafter is required as determined by the following methods:

(i) ASTM D2879-83, 96, or 97 (incorporated by reference—see § 60.17); or

(ii) ASTM D323-82 or 94 (incorporated by reference—see § 60.17); or

(iii) As measured by an appropriate method as approved by the Administrator.

(g) The owner or operator of each vessel equipped with a closed vent system and control device meeting the specification of § 60.112b or with emissions reductions equipment as specified in 40 CFR 65.42(b)(4), (b)(5), (b)(6), or (c) is exempt from the requirements of paragraphs (c) and (d) of this section.

[52 FR 11429, Apr. 8, 1987, as amended at 65 FR 61756, Oct. 17, 2000; 65 FR 78276, Dec. 14, 2000; 68 FR 59333, Oct. 15, 2003]

§ 60.117b Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under section 111(c) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) Authorities which will not be delegated to States: §§ 60.111b(f)(4), 60.114b, 60.116b(e)(3)(iii), 60.116b(e)(3)(iv), and 60.116b(f)(2)(iii).

[52 FR 11429, Apr. 8, 1987, as amended at 52 FR 22780, June 16, 1987]

Attachment B
To Part 70 Operating Permit Renewal No. 071-30358-00015

Title 40: Protection of Environment

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

Subpart IIII—Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

SOURCE: 71 FR 39172, July 11, 2006, unless otherwise noted.

What This Subpart Covers

§ 60.4200 Am I subject to this subpart?

(a) The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary compression ignition (CI) internal combustion engines (ICE) and other persons as specified in paragraphs (a)(1) through (4) 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 CI ICE with a displacement of less than 30 liters per cylinder where the model year is:

(i) 2007 or later, for engines that are not fire pump engines;

(ii) The model year listed in Table 3 to this subpart or later model year, for fire pump engines.

(2) Owners and operators of stationary CI ICE that commence construction after July 11, 2005, where the stationary CI ICE are:

(i) Manufactured after April 1, 2006, and are not fire pump engines, or

(ii) Manufactured as a certified National Fire Protection Association (NFPA) fire pump engine after July 1, 2006.

(3) Owners and operators of any stationary CI ICE that are modified or reconstructed after July 11, 2005 and any person that modifies or reconstructs any stationary CI ICE after July 11, 2005.

(4) The provisions of § 60.4208 of this subpart are applicable to all owners and operators of stationary CI ICE that commence construction after July 11, 2005.

(b) The provisions of this subpart are not applicable to stationary CI ICE being tested at a stationary CI ICE 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 applicable to area sources.

(d) Stationary CI 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 part 89, subpart J and 40 CFR part 94, subpart J, 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.

(e) Owners and operators of facilities with CI ICE 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.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37967, June 28, 2011]

Emission Standards for Manufacturers

§ 60.4201 What emission standards must I meet for non-emergency engines if I am a stationary CI internal combustion engine manufacturer?

(a) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later non-emergency stationary CI ICE with a maximum engine power less than or equal to 2,237 kilowatt (KW) (3,000 horsepower (HP)) and a displacement of less than 10 liters per cylinder to the certification emission standards for new nonroad CI engines in 40 CFR 89.112, 40 CFR 89.113, 40 CFR 1039.101, 40 CFR 1039.102, 40 CFR 1039.104, 40 CFR 1039.105, 40 CFR 1039.107, and 40 CFR 1039.115, as applicable, for all pollutants, for the same model year and maximum engine power.

(b) Stationary CI internal combustion engine manufacturers must certify their 2007 through 2010 model year non-emergency stationary CI ICE with a maximum engine power greater than 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder to the emission standards in table 1 to this subpart, for all pollutants, for the same maximum engine power.

(c) Stationary CI internal combustion engine manufacturers must certify their 2011 model year and later non-emergency stationary CI ICE with a maximum engine power greater than 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder to the certification emission standards for new nonroad CI engines in 40 CFR 1039.101, 40 CFR 1039.102, 40 CFR 1039.104, 40 CFR 1039.105, 40 CFR 1039.107, and 40 CFR 1039.115, as applicable, for all pollutants, for the same maximum engine power.

(d) Stationary CI internal combustion engine manufacturers must certify the following non-emergency stationary CI ICE to the certification emission standards for new marine CI engines in 40 CFR 94.8, as applicable, for all pollutants, for the same displacement and maximum engine power:

(1) Their 2007 model year through 2012 non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder;

(2) Their 2013 model year non-emergency stationary CI ICE with a maximum engine power greater than or equal to 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder; and

(3) Their 2013 model year non-emergency stationary CI ICE with a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder.

(e) Stationary CI internal combustion engine manufacturers must certify the following non-emergency stationary CI ICE to the certification emission standards and other requirements for new marine CI engines in 40 CFR 1042.101, 40 CFR 1042.107, 40 CFR 1042.110, 40 CFR 1042.115, 40 CFR

1042.120, and 40 CFR 1042.145, as applicable, for all pollutants, for the same displacement and maximum engine power:

(1) Their 2013 model year non-emergency stationary CI ICE with a maximum engine power less than 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder; and

(2) Their 2014 model year and later non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder.

(f) Notwithstanding the requirements in paragraphs (a) through (c) of this section, stationary non-emergency CI ICE identified in paragraphs (a) and (c) may be certified to the provisions of 40 CFR part 94 or, if Table 1 to 40 CFR 1042.1 identifies 40 CFR part 1042 as being applicable, 40 CFR part 1042, if the engines will be used solely in either or both of the following locations:

(1) Areas of Alaska not accessible by the Federal Aid Highway System (FAHS); and

(2) Marine offshore installations.

(g) Notwithstanding the requirements in paragraphs (a) through (f) of this section, stationary CI internal combustion engine manufacturers are not required to certify reconstructed engines; however manufacturers may elect to do so. The reconstructed engine must be certified to the emission standards specified in paragraphs (a) through (e) of this section that are applicable to the model year, maximum engine power, and displacement of the reconstructed stationary CI ICE.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37967, June 28, 2011]

§ 60.4202 What emission standards must I meet for emergency engines if I am a stationary CI internal combustion engine manufacturer?

(a) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a maximum engine power less than or equal to 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder that are not fire pump engines to the emission standards specified in paragraphs (a)(1) through (2) of this section.

(1) For engines with a maximum engine power less than 37 KW (50 HP):

(i) The certification emission standards for new nonroad CI engines for the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants for model year 2007 engines, and

(ii) The certification emission standards for new nonroad CI engines in 40 CFR 1039.104, 40 CFR 1039.105, 40 CFR 1039.107, 40 CFR 1039.115, and table 2 to this subpart, for 2008 model year and later engines.

(2) For engines with a maximum engine power greater than or equal to 37 KW (50 HP), the certification emission standards for new nonroad CI engines for the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants beginning in model year 2007.

(b) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a maximum engine power greater than 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder that are not fire pump engines to the emission standards specified in paragraphs (b)(1) through (2) of this section.

(1) For 2007 through 2010 model years, the emission standards in table 1 to this subpart, for all pollutants, for the same maximum engine power.

(2) For 2011 model year and later, the certification emission standards for new nonroad CI engines for engines of the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants.

(c) [Reserved]

(d) Beginning with the model years in table 3 to this subpart, stationary CI internal combustion engine manufacturers must certify their fire pump stationary CI ICE to the emission standards in table 4 to this subpart, for all pollutants, for the same model year and NFPA nameplate power.

(e) Stationary CI internal combustion engine manufacturers must certify the following emergency stationary CI ICE that are not fire pump engines to the certification emission standards for new marine CI engines in 40 CFR 94.8, as applicable, for all pollutants, for the same displacement and maximum engine power:

(1) Their 2007 model year through 2012 emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder;

(2) Their 2013 model year and later emergency stationary CI ICE with a maximum engine power greater than or equal to 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder;

(3) Their 2013 model year emergency stationary CI ICE with a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder; and

(4) Their 2014 model year and later emergency stationary CI ICE with a maximum engine power greater than or equal to 2,000 KW (2,682 HP) and a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder.

(f) Stationary CI internal combustion engine manufacturers must certify the following emergency stationary CI ICE to the certification emission standards and other requirements applicable to Tier 3 new marine CI engines in 40 CFR 1042.101, 40 CFR 1042.107, 40 CFR 1042.115, 40 CFR 1042.120, and 40 CFR 1042.145, for all pollutants, for the same displacement and maximum engine power:

(1) Their 2013 model year and later emergency stationary CI ICE with a maximum engine power less than 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder; and

(2) Their 2014 model year and later emergency stationary CI ICE with a maximum engine power less than 2,000 KW (2,682 HP) and a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder.

(g) Notwithstanding the requirements in paragraphs (a) through (d) of this section, stationary emergency CI internal combustion engines identified in paragraphs (a) and (c) may be certified to the provisions of 40 CFR part 94 or, if Table 2 to 40 CFR 1042.101 identifies Tier 3 standards as being applicable, the requirements applicable to Tier 3 engines in 40 CFR part 1042, if the engines will be used solely in either or both of the following locations:

(1) Areas of Alaska not accessible by the FAHS; and

(2) Marine offshore installations.

(h) Notwithstanding the requirements in paragraphs (a) through (f) of this section, stationary CI internal combustion engine manufacturers are not required to certify reconstructed engines; however manufacturers may elect to do so. The reconstructed engine must be certified to the emission standards specified in paragraphs (a) through (f) of this section that are applicable to the model year, maximum engine power and displacement of the reconstructed emergency stationary CI ICE.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37968, June 28, 2011]

§ 60.4203 How long must my engines meet the emission standards if I am a manufacturer of stationary CI internal combustion engines?

Engines manufactured by stationary CI internal combustion engine manufacturers must meet the emission standards as required in §§ 60.4201 and 60.4202 during the certified emissions life of the engines.

[76 FR 37968, June 28, 2011]

Emission Standards for Owners and Operators

§ 60.4204 What emission standards must I meet for non-emergency engines if I am an owner or operator of a stationary CI internal combustion engine?

(a) Owners and operators of pre-2007 model year non-emergency stationary CI ICE with a displacement of less than 10 liters per cylinder must comply with the emission standards in table 1 to this subpart. Owners and operators of pre-2007 model year non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder must comply with the emission standards in 40 CFR 94.8(a)(1).

(b) Owners and operators of 2007 model year and later non-emergency stationary CI ICE with a displacement of less than 30 liters per cylinder must comply with the emission standards for new CI engines in § 60.4201 for their 2007 model year and later stationary CI ICE, as applicable.

(c) Owners and operators of non-emergency stationary CI engines with a displacement of greater than or equal to 30 liters per cylinder must meet the following requirements:

(1) For engines installed prior to January 1, 2012, limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to the following:

(i) 17.0 grams per kilowatt-hour (g/KW-hr) (12.7 grams per horsepower-hr (g/HP-hr)) when maximum engine speed is less than 130 revolutions per minute (rpm);

(ii) $45 \cdot n^{-0.2}$ g/KW-hr ($34 \cdot n^{-0.2}$ g/HP-hr) when maximum engine speed is 130 or more but less than 2,000 rpm, where n is maximum engine speed; and

(iii) 9.8 g/KW-hr (7.3 g/HP-hr) when maximum engine speed is 2,000 rpm or more.

(2) For engines installed on or after January 1, 2012 and before January 1, 2016, limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to the following:

(i) 14.4 g/KW-hr (10.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) 44 · $n^{-0.23}$ g/KW-hr (33 · $n^{-0.23}$ g/HP-hr) when maximum engine speed is greater than or equal to 130 but less than 2,000 rpm and where n is maximum engine speed; and

(iii) 7.7 g/KW-hr (5.7 g/HP-hr) when maximum engine speed is greater than or equal to 2,000 rpm.

(3) For engines installed on or after January 1, 2016, limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to the following:

(i) 3.4 g/KW-hr (2.5 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) 9.0 · $n^{-0.20}$ g/KW-hr (6.7 · $n^{-0.20}$ g/HP-hr) where n (maximum engine speed) is 130 or more but less than 2,000 rpm; and

(iii) 2.0 g/KW-hr (1.5 g/HP-hr) where maximum engine speed is greater than or equal to 2,000 rpm.

(4) Reduce particulate matter (PM) emissions by 60 percent or more, or limit the emissions of PM in the stationary CI internal combustion engine exhaust to 0.15 g/KW-hr (0.11 g/HP-hr).

(d) Owners and operators of non-emergency stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests in-use must meet the not-to-exceed (NTE) standards as indicated in § 60.4212.

(e) Owners and operators of any modified or reconstructed non-emergency stationary CI ICE subject to this subpart must meet the emission standards applicable to the model year, maximum engine power, and displacement of the modified or reconstructed non-emergency stationary CI ICE that are specified in paragraphs (a) through (d) of this section.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37968, June 28, 2011]

§ 60.4205 What emission standards must I meet for emergency engines if I am an owner or operator of a stationary CI internal combustion engine?

(a) Owners and operators of pre-2007 model year emergency stationary CI ICE with a displacement of less than 10 liters per cylinder that are not fire pump engines must comply with the emission standards in Table 1 to this subpart. Owners and operators of pre-2007 model year emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards in 40 CFR 94.8(a)(1).

(b) Owners and operators of 2007 model year and later emergency stationary CI ICE with a displacement of less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards for new nonroad CI engines in § 60.4202, for all pollutants, for the same model year and maximum engine power for their 2007 model year and later emergency stationary CI ICE.

(c) Owners and operators of fire pump engines with a displacement of less than 30 liters per cylinder must comply with the emission standards in table 4 to this subpart, for all pollutants.

(d) Owners and operators of emergency stationary CI engines with a displacement of greater than or equal to 30 liters per cylinder must meet the requirements in this section.

(1) For engines installed prior to January 1, 2012, limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to the following:

(i) 17.0 g/KW-hr (12.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) 45 · $n^{-0.2}$ g/KW-hr (34 · $n^{-0.2}$ g/HP-hr) when maximum engine speed is 130 or more but less than 2,000 rpm, where n is maximum engine speed; and

(iii) 9.8 g/kW-hr (7.3 g/HP-hr) when maximum engine speed is 2,000 rpm or more.

(2) For engines installed on or after January 1, 2012, limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to the following:

(i) 14.4 g/KW-hr (10.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) 44 · $n^{-0.23}$ g/KW-hr (33 · $n^{-0.23}$ g/HP-hr) when maximum engine speed is greater than or equal to 130 but less than 2,000 rpm and where n is maximum engine speed; and

(iii) 7.7 g/KW-hr (5.7 g/HP-hr) when maximum engine speed is greater than or equal to 2,000 rpm.

(3) Limit the emissions of PM in the stationary CI internal combustion engine exhaust to 0.40 g/KW-hr (0.30 g/HP-hr).

(e) Owners and operators of emergency stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests in-use must meet the NTE standards as indicated in § 60.4212.

(f) Owners and operators of any modified or reconstructed emergency stationary CI ICE subject to this subpart must meet the emission standards applicable to the model year, maximum engine power, and displacement of the modified or reconstructed CI ICE that are specified in paragraphs (a) through (e) of this section.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011]

§ 60.4206 How long must I meet the emission standards if I am an owner or operator of a stationary CI internal combustion engine?

Owners and operators of stationary CI ICE must operate and maintain stationary CI ICE that achieve the emission standards as required in §§ 60.4204 and 60.4205 over the entire life of the engine.

[76 FR 37969, June 28, 2011]

Fuel Requirements for Owners and Operators

§ 60.4207 What fuel requirements must I meet if I am an owner or operator of a stationary CI internal combustion engine subject to this subpart?

(a) Beginning October 1, 2007, owners and operators of stationary CI ICE subject to this subpart that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(a).

(b) Beginning October 1, 2010, owners and operators of stationary CI ICE subject to this subpart with a displacement of less than 30 liters per cylinder that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted.

(c) [Reserved]

(d) Beginning June 1, 2012, owners and operators of stationary CI ICE subject to this subpart with a displacement of greater than or equal to 30 liters per cylinder are no longer subject to the requirements of paragraph (a) of this section, and must use fuel that meets a maximum per-gallon sulfur content of 1,000 parts per million (ppm).

(e) Stationary CI ICE that have a national security exemption under § 60.4200(d) are also exempt from the fuel requirements in this section.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011; 78 FR 6695, Jan. 30, 2013]

Other Requirements for Owners and Operators

§ 60.4208 What is the deadline for importing or installing stationary CI ICE produced in previous model years?

(a) After December 31, 2008, owners and operators may not install stationary CI ICE (excluding fire pump engines) that do not meet the applicable requirements for 2007 model year engines.

(b) After December 31, 2009, owners and operators may not install stationary CI ICE with a maximum engine power of less than 19 KW (25 HP) (excluding fire pump engines) that do not meet the applicable requirements for 2008 model year engines.

(c) After December 31, 2014, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 19 KW (25 HP) and less than 56 KW (75 HP) that do not meet the applicable requirements for 2013 model year non-emergency engines.

(d) After December 31, 2013, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 56 KW (75 HP) and less than 130 KW (175 HP) that do not meet the applicable requirements for 2012 model year non-emergency engines.

(e) After December 31, 2012, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 130 KW (175 HP), including those above 560 KW (750 HP), that do not meet the applicable requirements for 2011 model year non-emergency engines.

(f) After December 31, 2016, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 560 KW (750 HP) that do not meet the applicable requirements for 2015 model year non-emergency engines.

(g) After December 31, 2018, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power greater than or equal to 600 KW (804 HP) and less than 2,000 KW (2,680 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder that do not meet the applicable requirements for 2017 model year non-emergency engines.

(h) In addition to the requirements specified in §§ 60.4201, 60.4202, 60.4204, and 60.4205, it is prohibited to import stationary CI ICE with a displacement of less than 30 liters per cylinder that do not meet the applicable requirements specified in paragraphs (a) through (g) of this section after the dates specified in paragraphs (a) through (g) of this section.

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

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011]

§ 60.4209 What are the monitoring requirements if I am an owner or operator of a stationary CI internal combustion engine?

If you are an owner or operator, you must meet the monitoring requirements of this section. In addition, you must also meet the monitoring requirements specified in § 60.4211.

(a) If you are an owner or operator of an emergency stationary CI internal combustion engine that does not meet the standards applicable to non-emergency engines, you must install a non-resettable hour meter prior to startup of the engine.

(b) If you are an owner or operator of a stationary CI internal combustion engine equipped with a diesel particulate filter to comply with the emission standards in § 60.4204, the diesel particulate filter must be installed with a backpressure monitor that notifies the owner or operator when the high backpressure limit of the engine is approached.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011]

Compliance Requirements

§ 60.4210 What are my compliance requirements if I am a stationary CI internal combustion engine manufacturer?

(a) Stationary CI internal combustion engine manufacturers must certify their stationary CI ICE with a displacement of less than 10 liters per cylinder to the emission standards specified in § 60.4201(a) through (c) and § 60.4202(a), (b) and (d) using the certification procedures required in 40 CFR part 89, subpart B, or 40 CFR part 1039, subpart C, as applicable, and must test their engines as specified in those parts. For the purposes of this subpart, engines certified to the standards in table 1 to this subpart shall be subject to the same requirements as engines certified to the standards in 40 CFR part 89. For the purposes of this subpart, engines certified to the standards in table 4 to this subpart shall be subject to the same requirements as engines certified to the standards in 40 CFR part 89, except that engines with NFPA nameplate power of less than 37 KW (50 HP) certified to model year 2011 or later standards shall be subject to the same requirements as engines certified to the standards in 40 CFR part 1039.

(b) Stationary CI internal combustion engine manufacturers must certify their stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder to the emission standards specified in § 60.4201(d) and (e) and § 60.4202(e) and (f) using the certification procedures required in 40 CFR part 94, subpart C, or 40 CFR part 1042, subpart C, as applicable, and must test their engines as specified in 40 CFR part 94 or 1042, as applicable.

(c) Stationary CI internal combustion engine manufacturers must meet the requirements of 40 CFR 1039.120, 1039.125, 1039.130, and 1039.135, and 40 CFR part 1068 for engines that are certified to the emission standards in 40 CFR part 1039. Stationary CI internal combustion engine manufacturers must meet the corresponding provisions of 40 CFR part 89, 40 CFR part 94 or 40 CFR part 1042 for engines that would be covered by that part if they were nonroad (including marine) engines. Labels on such engines must refer to stationary engines, rather than or in addition to nonroad or marine engines, as appropriate. Stationary CI internal combustion engine manufacturers must label their engines according to paragraphs (c)(1) through (3) of this section.

(1) Stationary CI internal combustion engines manufactured from January 1, 2006 to March 31, 2006 (January 1, 2006 to June 30, 2006 for fire pump engines), other than those that are part of certified engine families under the nonroad CI engine regulations, must be labeled according to 40 CFR 1039.20.

(2) Stationary CI internal combustion engines manufactured from April 1, 2006 to December 31, 2006 (or, for fire pump engines, July 1, 2006 to December 31 of the year preceding the year listed in table 3 to this subpart) must be labeled according to paragraphs (c)(2)(i) through (iii) of this section:

(i) Stationary CI internal combustion engines that are part of certified engine families under the nonroad regulations must meet the labeling requirements for nonroad CI engines, but do not have to meet the labeling requirements in 40 CFR 1039.20.

(ii) Stationary CI internal combustion engines that meet Tier 1 requirements (or requirements for fire pumps) under this subpart, but do not meet the requirements applicable to nonroad CI engines must be labeled according to 40 CFR 1039.20. The engine manufacturer may add language to the label clarifying that the engine meets Tier 1 requirements (or requirements for fire pumps) of this subpart.

(iii) Stationary CI internal combustion engines manufactured after April 1, 2006 that do not meet Tier 1 requirements of this subpart, or fire pumps engines manufactured after July 1, 2006 that do not meet the requirements for fire pumps under this subpart, may not be used in the U.S. If any such engines are manufactured in the U.S. after April 1, 2006 (July 1, 2006 for fire pump engines), they must be exported or must be brought into compliance with the appropriate standards prior to initial operation. The export provisions of 40 CFR 1068.230 would apply to engines for export and the manufacturers must label such engines according to 40 CFR 1068.230.

(3) Stationary CI internal combustion engines manufactured after January 1, 2007 (for fire pump engines, after January 1 of the year listed in table 3 to this subpart, as applicable) must be labeled according to paragraphs (c)(3)(i) through (iii) of this section.

(i) Stationary CI internal combustion engines that meet the requirements of this subpart and the corresponding requirements for nonroad (including marine) engines of the same model year and HP must be labeled according to the provisions in 40 CFR parts 89, 94, 1039 or 1042, as appropriate.

(ii) Stationary CI internal combustion engines that meet the requirements of this subpart, but are not certified to the standards applicable to nonroad (including marine) engines of the same model year and HP must be labeled according to the provisions in 40 CFR parts 89, 94, 1039 or 1042, as appropriate, but the words “stationary” must be included instead of “nonroad” or “marine” on the label. In addition, such engines must be labeled according to 40 CFR 1039.20.

(iii) Stationary CI internal combustion engines 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.

(d) An engine manufacturer certifying an engine family or families to standards under this subpart that are identical to standards applicable under 40 CFR parts 89, 94, 1039 or 1042 for that model year may certify any such family that contains both nonroad (including marine) 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.

(e) Manufacturers of engine families discussed in paragraph (d) of this section may meet the labeling requirements referred to in paragraph (c) of this section for stationary CI ICE by either adding a separate label containing the information required in paragraph (c) of this section or by adding the words “and stationary” after the word “nonroad” or “marine,” as appropriate, to the label.

(f) Starting with the model years shown in table 5 to this subpart, stationary CI internal combustion engine manufacturers must add a permanent label stating that the engine is for stationary emergency use only to each new emergency stationary CI internal combustion engine greater than or equal to 19 KW (25 HP) that meets all the emission standards for emergency engines in § 60.4202 but does not meet all the emission standards for non-emergency engines in § 60.4201. The label must be added according to the labeling requirements specified in 40 CFR 1039.135(b). Engine manufacturers must specify in the owner's manual that operation of emergency engines is limited to emergency operations and required maintenance and testing.

(g) Manufacturers of fire pump engines may use the test cycle in table 6 to this subpart for testing fire pump engines and may test at the NFPA certified nameplate HP, provided that the engine is labeled as “Fire Pump Applications Only”.

(h) Engine manufacturers, including importers, may introduce into commerce uncertified engines or engines certified to earlier standards that were manufactured before the new or changed standards took effect until inventories are depleted, as long as such engines are part of normal inventory. For example, if the engine manufacturers' normal industry practice is to keep on hand a one-month supply of engines based on its projected sales, and a new tier of standards starts to apply for the 2009 model year, the engine manufacturer may manufacture engines based on the normal inventory requirements late in the 2008 model year, and sell those engines for installation. The engine manufacturer may not circumvent the provisions of §§ 60.4201 or 60.4202 by stockpiling engines that are built before new or changed standards take effect. Stockpiling of such engines beyond normal industry practice is a violation of this subpart.

(i) The replacement engine provisions of 40 CFR 89.1003(b)(7), 40 CFR 94.1103(b)(3), 40 CFR 94.1103(b)(4) and 40 CFR 1068.240 are applicable to stationary CI engines replacing existing equipment that is less than 15 years old.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011]

§ 60.4211 What are my compliance requirements if I am an owner or operator of a stationary CI internal combustion engine?

(a) If you are an owner or operator and must comply with the emission standards specified in this subpart, you must do all of the following, except as permitted under paragraph (g) of this section:

(1) Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions;

(2) Change only those emission-related settings that are permitted by the manufacturer; and

(3) Meet the requirements of 40 CFR parts 89, 94 and/or 1068, as they apply to you.

(b) If you are an owner or operator of a pre-2007 model year stationary CI internal combustion engine and must comply with the emission standards specified in §§ 60.4204(a) or 60.4205(a), or if you are an owner or operator of a CI fire pump engine that is manufactured prior to the model years in table 3 to this subpart and must comply with the emission standards specified in § 60.4205(c), you must demonstrate compliance according to one of the methods specified in paragraphs (b)(1) through (5) of this section.

(1) Purchasing an engine certified according to 40 CFR part 89 or 40 CFR part 94, as applicable, for the same model year and maximum engine power. 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.

(5) Conducting an initial performance test to demonstrate compliance with the emission standards according to the requirements specified in § 60.4212, as applicable.

(c) If you are an owner or operator of a 2007 model year and later stationary CI internal combustion engine and must comply with the emission standards specified in § 60.4204(b) or § 60.4205(b), or if you are an owner or operator of a CI fire pump engine that is manufactured during or after the model year that applies to your fire pump engine power rating in table 3 to this subpart and must comply with the emission standards specified in § 60.4205(c), you must comply by purchasing an engine certified to the emission standards in § 60.4204(b), or § 60.4205(b) or (c), as applicable, for the same model year and maximum (or in the case of fire pumps, NFPA nameplate) engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in paragraph (g) of this section.

(d) If you are an owner or operator and must comply with the emission standards specified in § 60.4204(c) or § 60.4205(d), you must demonstrate compliance according to the requirements specified in paragraphs (d)(1) through (3) of this section.

(1) Conducting an initial performance test to demonstrate initial compliance with the emission standards as specified in § 60.4213.

(2) Establishing operating parameters to be monitored continuously to ensure the stationary internal combustion engine continues to meet the emission standards. The owner or operator must petition the Administrator for approval of operating parameters to be monitored continuously. The petition must include the information described in paragraphs (d)(2)(i) through (v) of this section.

(i) Identification of the specific parameters you propose to monitor continuously;

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

(iii) 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;

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

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

(3) For non-emergency engines with a displacement of greater than or equal to 30 liters per cylinder, conducting annual performance tests to demonstrate continuous compliance with the emission standards as specified in § 60.4213.

(e) If you are an owner or operator of a modified or reconstructed stationary CI internal combustion engine and must comply with the emission standards specified in § 60.4204(e) or § 60.4205(f), you must demonstrate compliance according to one of the methods specified in paragraphs (e)(1) or (2) of this section.

(1) Purchasing, or otherwise owning or operating, an engine certified to the emission standards in § 60.4204(e) or § 60.4205(f), as applicable.

(2) Conducting a performance test to demonstrate initial compliance with the emission standards according to the requirements specified in § 60.4212 or § 60.4213, as appropriate. The test must be conducted within 60 days after the engine commences operation after the modification or reconstruction.

(f) If you own or operate an emergency stationary ICE, you must operate the emergency stationary ICE according to the requirements in paragraphs (f)(1) through (3) of this section. In order for the engine to be considered an emergency stationary ICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (3) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (3) of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.

(1) There is no time limit on the use of emergency stationary ICE in emergency situations.

(2) You may operate your emergency stationary ICE for any combination of the purposes specified in paragraphs (f)(2)(i) through (iii) of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (f)(3) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).

(i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. 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 calendar year.

(ii) Emergency stationary ICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see § 60.17), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.

(iii) Emergency stationary ICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

(3) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. Except as provided in paragraph (f)(3)(i) of this section, the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(i) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:

(A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator;

(B) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.

(C) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.

(D) The power is provided only to the facility itself or to support the local transmission and distribution system.

(E) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

(ii) [Reserved]

(g) If you do not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, you must demonstrate compliance as follows:

(1) If you are an owner or operator of a stationary CI internal combustion engine with maximum engine power 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. In addition, if you do not install and configure the engine and control device according to the manufacturer's emission-related written instructions, or you change the emission-related settings in a way that is not permitted by the manufacturer, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of such action.

(2) If you are an owner or operator of a stationary CI 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 to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer.

(3) If you are an owner or operator of a stationary CI 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 to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer. You must conduct

subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37970, June 28, 2011; 78 FR 6695, Jan. 30, 2013]

Testing Requirements for Owners and Operators

§ 60.4212 What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of less than 30 liters per cylinder?

Owners and operators of stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests pursuant to this subpart must do so according to paragraphs (a) through (e) of this section.

(a) The performance test must be conducted according to the in-use testing procedures in 40 CFR part 1039, subpart F, for stationary CI ICE with a displacement of less than 10 liters per cylinder, and according to 40 CFR part 1042, subpart F, for stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder.

(b) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR part 1039 must not exceed the not-to-exceed (NTE) standards for the same model year and maximum engine power as required in 40 CFR 1039.101(e) and 40 CFR 1039.102(g)(1), except as specified in 40 CFR 1039.104(d). This requirement starts when NTE requirements take effect for nonroad diesel engines under 40 CFR part 1039.

(c) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR 89.112 or 40 CFR 94.8, as applicable, must not exceed the NTE numerical requirements, rounded to the same number of decimal places as the applicable standard in 40 CFR 89.112 or 40 CFR 94.8, as applicable, determined from the following equation:

$$\text{NTE requirement for each pollutant} = (1.25) \times (\text{STD}) \qquad \text{(Eq. 1)}$$

Where:

STD = The standard specified for that pollutant in 40 CFR 89.112 or 40 CFR 94.8, as applicable.

Alternatively, stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR 89.112 or 40 CFR 94.8 may follow the testing procedures specified in § 60.4213 of this subpart, as appropriate.

(d) Exhaust emissions from stationary CI ICE that are complying with the emission standards for pre-2007 model year engines in § 60.4204(a), § 60.4205(a), or § 60.4205(c) must not exceed the NTE numerical requirements, rounded to the same number of decimal places as the applicable standard in § 60.4204(a), § 60.4205(a), or § 60.4205(c), determined from the equation in paragraph (c) of this section.

Where:

STD = The standard specified for that pollutant in § 60.4204(a), § 60.4205(a), or § 60.4205(c).

Alternatively, stationary CI ICE that are complying with the emission standards for pre-2007 model year engines in § 60.4204(a), § 60.4205(a), or § 60.4205(c) may follow the testing procedures specified in § 60.4213, as appropriate.

(e) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR part 1042 must not exceed the NTE standards for the same model year and maximum engine power as required in 40 CFR 1042.101(c).

[71 FR 39172, July 11, 2006, as amended at 76 FR 37971, June 28, 2011]

§ 60.4213 What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of greater than or equal to 30 liters per cylinder?

Owners and operators of stationary CI ICE with a displacement of greater than or equal to 30 liters per cylinder must conduct performance tests according to paragraphs (a) through (f) of this section.

(a) Each performance test must be conducted according to the requirements in § 60.8 and under the specific conditions that this subpart specifies in table 7. The test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load.

(b) You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in § 60.8(c).

(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 last at least 1 hour.

(d) To determine compliance with the percent reduction requirement, you must follow the requirements as specified in paragraphs (d)(1) through (3) of this section.

(1) You must use Equation 2 of this section to determine compliance with the percent reduction requirement:

$$\frac{C_i - C_o}{C_i} \times 100 = R \qquad \text{(Eq. 2)}$$

Where:

C_i = concentration of NO_x or PM at the control device inlet,

C_o = concentration of NO_x or PM at the control device outlet, and

R = percent reduction of NO_x or PM emissions.

(2) You must normalize the NO_x or PM concentrations at the inlet and outlet of the control device to a dry basis and to 15 percent oxygen (O_2) using Equation 3 of this section, or an equivalent percent carbon dioxide (CO_2) using the procedures described in paragraph (d)(3) of this section.

$$C_{adj} = C_d \frac{5.9}{20.9 - \%\, O_2} \qquad \text{(Eq. 3)}$$

Where:

C_{adj} = Calculated NO_x or PM concentration adjusted to 15 percent O_2 .

C_d = Measured concentration of NO_x or PM, uncorrected.

5.9 = 20.9 percent O_2 −15 percent O_2 , the defined O_2 correction value, percent.

$\%O_2$ = Measured O_2 concentration, dry basis, percent.

(3) If pollutant concentrations are to be corrected to 15 percent O_2 and CO_2 concentration is measured in lieu of O_2 concentration measurement, a CO_2 correction factor is needed. Calculate the CO_2 correction factor as described in paragraphs (d)(3)(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:

$$F_o = \frac{0.209 F_d}{F_c} \qquad \text{(Eq. 4)}$$

Where:

F_o = Fuel factor based on the ratio of O_2 volume to the ultimate CO_2 volume produced by the fuel at zero percent excess air.

0.209 = Fraction of air that is O_2 , percent/100.

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

F_c = Ratio of the volume of CO_2 produced to the gross calorific value of the fuel from Method 19, dsm^3 /J ($dscf/10^6$ Btu).

(ii) Calculate the CO_2 correction factor for correcting measurement data to 15 percent O_2 , as follows:

$$X_{CO_2} = \frac{5.9}{F_o} \qquad \text{(Eq. 5)}$$

Where:

X_{CO2} = CO_2 correction factor, percent.

5.9 = 20.9 percent O_2 −15 percent O_2 , the defined O_2 correction value, percent.

(iii) Calculate the NO_x and PM gas concentrations adjusted to 15 percent O_2 using CO_2 as follows:

$$C_{adj} = C_d \frac{X_{CO_2}}{\%CO_2} \qquad \text{(Eq. 6)}$$

Where:

C_{adj} = Calculated NO_x or PM concentration adjusted to 15 percent O_2 .

C_d = Measured concentration of NO_x or PM, uncorrected.

$\%CO_2$ = Measured CO_2 concentration, dry basis, percent.

(e) To determine compliance with the NO_x mass per unit output emission limitation, convert the concentration of NO_x in the engine exhaust using Equation 7 of this section:

$$ER = \frac{C_d \times 1.912 \times 10^{-3} \times Q \times T}{\text{KW-hour}} \qquad \text{(Eq. 7)}$$

Where:

ER = Emission rate in grams per KW-hour.

C_d = Measured NO_x concentration in ppm.

1.912×10^{-3} = Conversion constant for ppm NO_x to grams per standard cubic meter at 25 degrees Celsius.

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

T = Time of test run, in hours.

KW-hour = Brake work of the engine, in KW-hour.

(f) To determine compliance with the PM mass per unit output emission limitation, convert the concentration of PM in the engine exhaust using Equation 8 of this section:

$$ER = \frac{C_{adj} \times Q \times T}{\text{KW-hour}} \qquad \text{(Eq. 8)}$$

Where:

ER = Emission rate in grams per KW-hour.

C_{adj} = Calculated PM concentration in grams per standard cubic meter.

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

T = Time of test run, in hours.

KW-hour = Energy output of the engine, in KW.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37971, June 28, 2011]

Notification, Reports, and Records for Owners and Operators

§ 60.4214 What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary CI internal combustion engine?

(a) Owners and operators of non-emergency stationary CI ICE that are greater than 2,237 KW (3,000 HP), or have a displacement of greater than or equal to 10 liters per cylinder, or are pre-2007 model year engines that are greater than 130 KW (175 HP) and not certified, must meet the requirements of paragraphs (a)(1) and (2) of this section.

(1) Submit an initial notification as required in § 60.7(a)(1). The notification must include the information in paragraphs (a)(1)(i) through (v) of this section.

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

(ii) The address of the affected source;

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

(iv) Emission control equipment; and

(v) Fuel used.

(2) Keep records of the information in paragraphs (a)(2)(i) through (iv) of this section.

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

(ii) Maintenance conducted on the engine.

(iii) If the stationary CI internal combustion is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards.

(iv) If the stationary CI internal combustion is not a certified engine, documentation that the engine meets the emission standards.

(b) If the stationary CI internal combustion engine is an emergency stationary internal combustion engine, the owner or operator is not required to submit an initial notification. Starting with the model years in table 5 to this subpart, if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the owner or operator must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time.

(c) If the stationary CI internal combustion engine is equipped with a diesel particulate filter, the owner or operator must keep records of any corrective action taken after the backpressure monitor has notified the owner or operator that the high backpressure limit of the engine is approached.

(d) If you own or operate an emergency stationary CI ICE with a maximum engine power more than 100 HP that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in § 60.4211(f)(2)(ii) and (iii) or that operates for the purposes specified in § 60.4211(f)(3)(i), you must submit an annual report according to the requirements in paragraphs (d)(1) through (3) of this section.

(1) The report must contain the following information:

(i) Company name and address where the engine is located.

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

(iii) Engine site rating and model year.

(iv) Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place.

(v) Hours operated for the purposes specified in § 60.4211(f)(2)(ii) and (iii), including the date, start time, and end time for engine operation for the purposes specified in § 60.4211(f)(2)(ii) and (iii).

(vi) Number of hours the engine is contractually obligated to be available for the purposes specified in § 60.4211(f)(2)(ii) and (iii).

(vii) Hours spent for operation for the purposes specified in § 60.4211(f)(3)(i), including the date, start time, and end time for engine operation for the purposes specified in § 60.4211(f)(3)(i). The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine.

(2) The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year.

(3) The annual report must be submitted electronically using the subpart specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (*www.epa.gov/cdx*). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written report must be submitted to the Administrator at the appropriate address listed in § 60.4.

[71 FR 39172, July 11, 2006, as amended at 78 FR 6696, Jan. 30, 2013]

Special Requirements

§ 60.4215 What requirements must I meet for engines used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands?

(a) Stationary CI ICE with a displacement of less than 30 liters per cylinder that are used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands are required to meet the applicable emission standards in §§ 60.4202 and 60.4205.

(b) Stationary CI ICE that are used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands are not required to meet the fuel requirements in § 60.4207.

(c) Stationary CI ICE with a displacement of greater than or equal to 30 liters per cylinder that are used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands are required to meet the following emission standards:

(1) For engines installed prior to January 1, 2012, limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to the following:

(i) 17.0 g/KW-hr (12.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $45 \cdot n^{-0.2}$ g/KW-hr ($34 \cdot n^{-0.2}$ g/HP-hr) when maximum engine speed is 130 or more but less than 2,000 rpm, where n is maximum engine speed; and

(iii) 9.8 g/KW-hr (7.3 g/HP-hr) when maximum engine speed is 2,000 rpm or more.

(2) For engines installed on or after January 1, 2012, limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to the following:

(i) 14.4 g/KW-hr (10.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $44 \cdot n^{-0.23}$ g/KW-hr ($33 \cdot n^{-0.23}$ g/HP-hr) when maximum engine speed is greater than or equal to 130 but less than 2,000 rpm and where n is maximum engine speed; and

(iii) 7.7 g/KW-hr (5.7 g/HP-hr) when maximum engine speed is greater than or equal to 2,000 rpm.

(3) Limit the emissions of PM in the stationary CI internal combustion engine exhaust to 0.40 g/KW-hr (0.30 g/HP-hr).

[71 FR 39172, July 11, 2006, as amended at 76 FR 37971, June 28, 2011]

§ 60.4216 What requirements must I meet for engines used in Alaska?

(a) Prior to December 1, 2010, owners and operators of stationary CI ICE with a displacement of less than 30 liters per cylinder located in areas of Alaska not accessible by the FAHS should refer to 40 CFR part 69 to determine the diesel fuel requirements applicable to such engines.

(b) Except as indicated in paragraph (c) of this section, manufacturers, owners and operators of stationary CI ICE with a displacement of less than 10 liters per cylinder located in areas of Alaska not accessible by the FAHS may meet the requirements of this subpart by manufacturing and installing engines meeting the requirements of 40 CFR parts 94 or 1042, as appropriate, rather than the otherwise applicable requirements of 40 CFR parts 89 and 1039, as indicated in sections §§ 60.4201(f) and 60.4202(g) of this subpart.

(c) Manufacturers, owners and operators of stationary CI ICE that are located in areas of Alaska not accessible by the FAHS may choose to meet the applicable emission standards for emergency engines in § 60.4202 and § 60.4205, and not those for non-emergency engines in § 60.4201 and § 60.4204, except that for 2014 model year and later non-emergency CI ICE, the owner or operator of any such engine that was not certified as meeting Tier 4 PM standards, must meet the applicable requirements for PM in § 60.4201 and § 60.4204 or install a PM emission control device that achieves PM emission reductions of 85 percent, or 60 percent for engines with a displacement of greater than or equal to 30 liters per cylinder, compared to engine-out emissions.

(d) The provisions of § 60.4207 do not apply to owners and operators of pre-2014 model year stationary CI ICE subject to this subpart that are located in areas of Alaska not accessible by the FAHS.

(e) The provisions of § 60.4208(a) do not apply to owners and operators of stationary CI ICE subject to this subpart that are located in areas of Alaska not accessible by the FAHS until after December 31, 2009.

(f) The provisions of this section and § 60.4207 do not prevent owners and operators of stationary CI ICE subject to this subpart that are located in areas of Alaska not accessible by the FAHS from using fuels mixed with used lubricating oil, in volumes of up to 1.75 percent of the total fuel. The sulfur content of the used lubricating oil must be less than 200 parts per million. The used lubricating oil must meet the on-specification levels and properties for used oil in 40 CFR 279.11.

[76 FR 37971, June 28, 2011]

§ 60.4217 What emission standards must I meet if I am an owner or operator of a stationary internal combustion engine using special fuels?

Owners and operators of stationary CI ICE that do not use diesel fuel may petition the Administrator for approval of alternative emission standards, if they can demonstrate that they use a fuel that is not the fuel on which the manufacturer of the engine certified the engine and that the engine cannot meet the applicable standards required in § 60.4204 or § 60.4205 using such fuels and that use of such fuel is appropriate and reasonably necessary, considering cost, energy, technical feasibility, human health and environmental, and other factors, for the operation of the engine.

[76 FR 37972, June 28, 2011]

General Provisions

§ 60.4218 What parts of the General Provisions apply to me?

Table 8 to this subpart shows which parts of the General Provisions in §§ 60.1 through 60.19 apply to you.

DEFINITIONS

§ 60.4219 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 CI ICE with a displacement of less than 10 liters per cylinder are given in 40 CFR 1039.101(g). The values for certified emissions life for stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder are given in 40 CFR 94.9(a).

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.

Date of manufacture means one of the following things:

(1) For freshly manufactured engines and modified engines, date of manufacture means the date the engine is originally produced.

(2) For reconstructed engines, date of manufacture means the date the engine was originally produced, except as specified in paragraph (3) of this definition.

(3) Reconstructed engines are assigned a new date of manufacture if the fixed capital cost of the new and refurbished components exceeds 75 percent of the fixed capital cost of a comparable entirely new facility. An engine that is produced from a previously used engine block does not retain the date of manufacture of the engine in which the engine block was previously used if the engine is produced using all new components except for the engine block. In these cases, the date of manufacture is the date of reconstruction or the date the new engine is produced.

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.

Diesel particulate filter means an emission control technology that reduces PM emissions by trapping the particles in a flow filter substrate and periodically removes the collected particles by either physical action or by oxidizing (burning off) the particles in a process called regeneration.

Emergency stationary internal combustion engine means any stationary reciprocating internal combustion engine that meets all of the criteria in paragraphs (1) through (3) of this definition. All emergency stationary ICE must comply with the requirements specified in § 60.4211(f) in order to be considered emergency stationary ICE. If the engine does not comply with the requirements specified in § 60.4211(f), then it is not considered to be an emergency stationary ICE under this subpart.

(1) The stationary ICE is operated to provide electrical power or mechanical work during an emergency situation. 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.

(2) The stationary ICE is operated under limited circumstances for situations not included in paragraph (1) of this definition, as specified in § 60.4211(f).

(3) The stationary ICE operates as part of a financial arrangement with another entity in situations not included in paragraph (1) of this definition only as allowed in § 60.4211(f)(2)(ii) or (iii) and § 60.4211(f)(3)(i).

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

Fire pump engine means an emergency stationary internal combustion engine certified to NFPA requirements that is used to provide power to pump water for fire suppression or protection.

Freshly manufactured engine means an engine that has not been placed into service. An engine becomes freshly manufactured when it is originally produced.

Installed means the engine is placed and secured at the location where it is intended to be operated.

Manufacturer has the meaning given in section 216(1) of the 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 sale or resale.

Maximum engine power means maximum engine power as defined in 40 CFR 1039.801.

Model year means the calendar year in which an engine is manufactured (see “date of manufacture”), except as follows:

(1) Model year means the annual new model production period of the engine manufacturer in which an engine is manufactured (see “date of manufacture”), if the annual new model production period is different than the calendar year and includes 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.

(2) 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 manufactured (see “date of manufacture”).

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.

Reciprocating internal combustion engine means any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work.

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 a gasoline, natural gas, or liquefied petroleum gas 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 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 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, aircraft, or a vehicle used solely for competition. Stationary ICE include reciprocating ICE, rotary ICE, and other ICE, except combustion turbines.

Subpart means 40 CFR part 60, subpart IIII.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37972, June 28, 2011; 78 FR 6696, Jan. 30, 2013]

Table 1 to Subpart IIII of Part 60—Emission Standards for Stationary Pre-2007 Model Year Engines With a Displacement of <10 Liters per Cylinder and 2007-2010 Model Year Engines >2,237 KW (3,000 HP) and With a Displacement of <10 Liters per Cylinder

[As stated in §§ 60.4201(b), 60.4202(b), 60.4204(a), and 60.4205(a), you must comply with the following emission standards]

Maximum engine power	Emission standards for stationary pre-2007 model year engines with a displacement of <10 liters per cylinder and 2007-2010 model year engines >2,237 KW (3,000 HP) and with a displacement of <10 liters per cylinder in g/KW-hr (g/HP-hr)				
	NMHC + NO_X	HC	NO_X	CO	PM
KW<8 (HP<11)	10.5 (7.8)			8.0 (6.0)	1.0 (0.75)
8≤KW<19 (11≤HP<25)	9.5 (7.1)			6.6 (4.9)	0.80 (0.60)
19≤KW<37 (25≤HP<50)	9.5 (7.1)			5.5 (4.1)	0.80 (0.60)
37≤KW<56 (50≤HP<75)			9.2 (6.9)		
56≤KW<75 (75≤HP<100)			9.2 (6.9)		
75≤KW<130 (100≤HP<175)			9.2 (6.9)		

130≤KW<225 (175≤HP<300)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
225≤KW<450 (300≤HP<600)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
450≤KW≤560 (600≤HP≤750)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
KW>560 (HP>750)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)

Table 2 to Subpart IIII of Part 60—Emission Standards for 2008 Model Year and Later Emergency Stationary CI ICE <37 KW (50 HP) With a Displacement of <10 Liters per Cylinder

[As stated in § 60.4202(a)(1), you must comply with the following emission standards]

Engine power	Emission standards for 2008 model year and later emergency stationary CI ICE <37 KW (50 HP) with a displacement of <10 liters per cylinder in g/KW-hr (g/HP-hr)			
	Model year(s)	**NO_X+ NMHC**	**CO**	**PM**
KW<8 (HP<11)	2008+	7.5 (5.6)	8.0 (6.0)	0.40 (0.30)
8≤KW<19 (11≤HP<25)	2008+	7.5 (5.6)	6.6 (4.9)	0.40 (0.30)
19≤KW<37 (25≤HP<50)	2008+	7.5 (5.6)	5.5 (4.1)	0.30 (0.22)

Table 3 to Subpart IIII of Part 60—Certification Requirements for Stationary Fire Pump Engines

As stated in § 60.4202(d), you must certify new stationary fire pump engines beginning with the following model years:

Engine power	Starting model year engine manufacturers must certify new stationary fire pump engines according to § 60.4202(d)[1]
KW<75 (HP<100)	2011
75≤KW<130 (100≤HP<175)	2010
130≤KW≤560 (175≤HP≤750)	2009
KW>560 (HP>750)	2008

[1]Manufacturers of fire pump stationary CI ICE with a maximum engine power greater than or equal to 37 kW (50 HP) and less than 450 KW (600 HP) and a rated speed of greater than 2,650 revolutions per

minute (rpm) are not required to certify such engines until three model years following the model year indicated in this Table 3 for engines in the applicable engine power category.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37972, June 28, 2011]

Table 4 to Subpart IIII of Part 60—Emission Standards for Stationary Fire Pump Engines

[As stated in §§ 60.4202(d) and 60.4205(c), you must comply with the following emission standards for stationary fire pump engines]

Maximum engine power	**Model year(s)**	**NMHC + NO_X**	**CO**	**PM**
KW<8 (HP<11)	2010 and earlier	10.5 (7.8)	8.0 (6.0)	1.0 (0.75)
	2011+	7.5 (5.6)		0.40 (0.30)
8≤KW<19 (11≤HP<25)	2010 and earlier	9.5 (7.1)	6.6 (4.9)	0.80 (0.60)
	2011+	7.5 (5.6)		0.40 (0.30)
19≤KW<37 (25≤HP<50)	2010 and earlier	9.5 (7.1)	5.5 (4.1)	0.80 (0.60)
	2011+	7.5 (5.6)		0.30 (0.22)
37≤KW<56 (50≤HP<75)	2010 and earlier	10.5 (7.8)	5.0 (3.7)	0.80 (0.60)
	2011+ [1]	4.7 (3.5)		0.40 (0.30)
56≤KW<75 (75≤HP<100)	2010 and earlier	10.5 (7.8)	5.0 (3.7)	0.80 (0.60)
	2011+ [1]	4.7 (3.5)		0.40 (0.30)
75≤KW<130 (100≤HP<175)	2009 and earlier	10.5 (7.8)	5.0 (3.7)	0.80 (0.60)
	2010+ [2]	4.0 (3.0)		0.30 (0.22)
130≤KW<225 (175≤HP<300)	2008 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2009+ [3]	4.0 (3.0)		0.20 (0.15)
225≤KW<450 (300≤HP<600)	2008 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2009+ [3]	4.0 (3.0)		0.20 (0.15)
450≤KW≤560 (600≤HP≤750)	2008 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2009+	4.0 (3.0)		0.20 (0.15)
KW>560 (HP>750)	2007 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2008+	6.4 (4.8)		0.20 (0.15)

[1] For model years 2011-2013, manufacturers, owners and operators of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 revolutions per minute (rpm) may comply with the emission limitations for 2010 model year engines.

[2] For model years 2010-2012, manufacturers, owners and operators of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 rpm may comply with the emission limitations for 2009 model year engines.

[3] In model years 2009-2011, manufacturers of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 rpm may comply with the emission limitations for 2008 model year engines.

Table 5 to Subpart IIII of Part 60—Labeling and Recordkeeping Requirements for New Stationary Emergency Engines

[You must comply with the labeling requirements in § 60.4210(f) and the recordkeeping requirements in § 60.4214(b) for new emergency stationary CI ICE beginning in the following model years:]

Engine power	Starting model year
19≤KW<56 (25≤HP<75)	2013
56≤KW<130 (75≤HP<175)	2012
KW≥130 (HP≥175)	2011

Table 6 to Subpart IIII of Part 60—Optional 3-Mode Test Cycle for Stationary Fire Pump Engines

[As stated in § 60.4210(g), manufacturers of fire pump engines may use the following test cycle for testing fire pump engines:]

Mode No.	Engine speed [1]	Torque (percent) [2]	Weighting factors
1	Rated	100	0.30
2	Rated	75	0.50
3	Rated	50	0.20

[1] Engine speed: ±2 percent of point.

[2] Torque: NFPA certified nameplate HP for 100 percent point. All points should be ±2 percent of engine percent load value.

Table 7 to Subpart IIII of Part 60—Requirements for Performance Tests for Stationary CI ICE With a Displacement of ≥30 Liters per Cylinder

[As stated in § 60.4213, you must comply with the following requirements for performance tests for stationary CI ICE with a displacement of ≥30 liters per cylinder:]

For each	Complying with the requirement to	You must	Using	According to the following requirements
1. Stationary CI internal combustion engine with a displacement of	a. Reduce NO_X emissions by 90 percent or more	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) Sampling sites must be located at the inlet and outlet of the control device.

≥30 liters per cylinder				
		ii. Measure O_2 at the inlet and outlet of the control device;	(2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A	(b) Measurements to determine O_2 concentration must be made at the same time as the measurements for NO_X concentration.
		iii. If necessary, measure moisture content at the inlet and outlet of the control device; and,	(3) Method 4 of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see § 60.17)	(c) Measurements to determine moisture content must be made at the same time as the measurements for NO_X concentration.
		iv. Measure NO_X at the inlet and outlet of the control device	(4) Method 7E of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see § 60.17)	(d) NO_X concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
	b. Limit the concentration of NO_X in the stationary CI 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_2 concentration of the stationary internal combustion engine exhaust at the sampling port location; and,	(2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A	(b) Measurements to determine O_2 concentration must be made at the same time as the measurement for NO_X concentration.
		iii. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and,	(3) Method 4 of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see § 60.17)	(c) Measurements to determine moisture content must be made at the same time as the measurement for NO_X concentration.

		iv. Measure NO_X at the exhaust of the stationary internal combustion engine	(4) Method 7E of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see § 60.17)	(d) NO_X concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
	c. Reduce PM emissions by 60 percent or more	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) Sampling sites must be located at the inlet and outlet of the control device.
		ii. Measure O_2 at the inlet and outlet of the control device;	(2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A	(b) Measurements to determine O_2 concentration must be made at the same time as the measurements for PM concentration.
		iii. If necessary, measure moisture content at the inlet and outlet of the control device; and	(3) Method 4 of 40 CFR part 60, appendix A	(c) Measurements to determine and moisture content must be made at the same time as the measurements for PM concentration.
		iv. Measure PM at the inlet and outlet of the control device	(4) Method 5 of 40 CFR part 60, appendix A	(d) PM concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
	d. Limit the concentration of PM in the stationary CI 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_2 concentration of the stationary internal combustion engine exhaust at the sampling port location; and	(2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A	(b) Measurements to determine O_2 concentration must be made at the same time as the measurements for PM concentration.
		iii. If necessary, measure moisture content of the stationary internal combustion engine	(3) Method 4 of 40 CFR part 60, appendix A	(c) Measurements to determine moisture content must be made at the same time as the measurements for PM

		exhaust at the sampling port location; and		concentration.
		iv. Measure PM at the exhaust of the stationary internal combustion engine	(4) Method 5 of 40 CFR part 60, appendix A	(d) PM concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.

Table 8 to Subpart IIII of Part 60—Applicability of General Provisions to Subpart IIII

[As stated in § 60.4218, 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 § 60.4219.
§ 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 § 60.4214(a).
§ 60.8	Performance tests	Yes	Except that § 60.8 only applies to stationary CI ICE with a displacement of (≥30 liters per cylinder and engines that are not certified.
§ 60.9	Availability of information	Yes	
§ 60.10	State Authority	Yes	
§ 60.11	Compliance with standards and maintenance requirements	No	Requirements are specified in subpart IIII.
§ 60.12	Circumvention	Yes	
§ 60.13	Monitoring requirements	Yes	Except that § 60.13 only applies to stationary CI ICE with a displacement of (≥30 liters per cylinder.
§ 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	

Attachment C
To Part 70 Operating Permit Renewal No. 071-30358-00015

Title 40: Protection of Environment

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES (CONTINUED)

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.

(f) The emergency stationary RICE listed in paragraphs (f)(1) through (3) of this section are not subject to this subpart. The stationary RICE must meet the definition of an emergency stationary RICE in § 63.6675, which includes operating according to the provisions specified in § 63.6640(f).

(1) Existing residential emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in § 63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in § 63.6640(f)(4)(ii).

(2) Existing commercial emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in § 63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in § 63.6640(f)(4)(ii).

(3) Existing institutional emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in § 63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in § 63.6640(f)(4)(ii).

[69 FR 33506, June 15, 2004, as amended at 73 FR 3603, Jan. 18, 2008; 78 FR 6700, Jan. 30, 2013]

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

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 paragraphs (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).

(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 that does not operate or is not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in § 63.6640(f)(2)(ii) and (iii).

(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(f) 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) The following stationary RICE do not have to meet the requirements of this subpart and of subpart A of this part, including initial notification requirements:

(i) Existing spark ignition 2 stroke lean burn (2SLB) stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(ii) Existing spark ignition 4 stroke lean burn (4SLB) stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(iii) Existing emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that does not operate or is not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in § 63.6640(f)(2)(ii) and (iii).

(iv) Existing limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(v) Existing stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;

(c) *Stationary RICE subject to Regulations under 40 CFR Part 60.* An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section 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.

(1) A new or reconstructed stationary RICE located at an area source;

(2) A new or reconstructed 2SLB stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(3) A new or reconstructed 4SLB stationary RICE with a site rating of less than 250 brake HP located at a major source of HAP emissions;

(4) A new or reconstructed spark ignition 4 stroke rich burn (4SRB) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(5) A 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 which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;

(6) A new or reconstructed emergency or limited use stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(7) A new or reconstructed compression ignition (CI) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3604, Jan. 18, 2008; 75 FR 9674, Mar. 3, 2010; 75 FR 37733, June 30, 2010; 75 FR 51588, Aug. 20, 2010; 78 FR 6700, Jan. 30, 2013]

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

(a) *Affected sources.* (1) If you have an existing stationary RICE, excluding existing non-emergency 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 applicable emission limitations, operating limitations and other requirements no later than June 15, 2007. If you have an existing non-emergency CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, an existing stationary CI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary CI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations, operating limitations, and other requirements no later than May 3, 2013. If you have an existing stationary SI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary SI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations, operating limitations, and other requirements no later than October 19, 2013.

(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; 75 FR 9675, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010; 78 FR 6701, Jan. 30, 2013]

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?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in § 63.6620 and Table 4 to this subpart.

(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 stationary 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, 2a, 2c, and 2d to this subpart or operating limitations in Tables 1b and 2b to this subpart: an existing 2SLB stationary RICE; an existing 4SLB 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.

(d) If you own or operate an existing non-emergency stationary CI 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 2c to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 9675, Mar. 3, 2010]

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

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in § 63.6620 and Table 4 to this subpart. 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, as amended at 75 FR 9675, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010]

§ 63.6602 What emission limitations and other requirements must I meet if I own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions?

If you own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations and other requirements in Table 2c to this subpart which apply to you. Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in § 63.6620 and Table 4 to this subpart.

[78 FR 6701, Jan. 30, 2013]

§ 63.6603 What emission limitations, operating limitations, and other requirements must I meet if I own or operate an existing stationary RICE located at an area source of HAP emissions?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in § 63.6620 and Table 4 to this subpart.

(a) If you own or operate an existing stationary RICE located at an area source of HAP emissions, you must comply with the requirements in Table 2d to this subpart and the operating limitations in Table 2b to this subpart that apply to you.

(b) If you own or operate an existing stationary non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP that meets either paragraph (b)(1) or (2) of this section, you do not have to meet the numerical CO emission limitations specified in Table 2d of this subpart. Existing stationary non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP that meet either paragraph (b)(1) or (2) of this section must meet the management practices that are shown for stationary non-emergency CI RICE with a site rating of less than or equal to 300 HP in Table 2d of this subpart.

(1) The area source is located in an area of Alaska that is not accessible by the Federal Aid Highway System (FAHS).

(2) The stationary RICE is located at an area source that meets paragraphs (b)(2)(i), (ii), and (iii) of this section.

(i) The only connection to the FAHS is through the Alaska Marine Highway System (AMHS), or the stationary RICE operation is within an isolated grid in Alaska that is not connected to the statewide electrical grid referred to as the Alaska Railbelt Grid.

(ii) At least 10 percent of the power generated by the stationary RICE on an annual basis is used for residential purposes.

(iii) The generating capacity of the area source is less than 12 megawatts, or the stationary RICE is used exclusively for backup power for renewable energy.

(c) If you own or operate an existing stationary non-emergency CI RICE with a site rating of more than 300 HP located on an offshore vessel that is an area source of HAP and is a nonroad vehicle that is an Outer Continental Shelf (OCS) source as defined in 40 CFR 55.2, you do not have to meet the numerical CO emission limitations specified in Table 2d of this subpart. You must meet all of the following management practices:

(1) Change oil every 1,000 hours of operation or annually, whichever comes first. Sources have the option to utilize an oil analysis program as described in § 63.6625(i) in order to extend the specified oil change requirement.

(2) Inspect and clean air filters every 750 hours of operation or annually, whichever comes first, and replace as necessary.

(3) Inspect fuel filters and belts, if installed, every 750 hours of operation or annually, whichever comes first, and replace as necessary.

(4) Inspect all flexible hoses every 1,000 hours of operation or annually, whichever comes first, and replace as necessary.

(d) If you own or operate an existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions that is certified to the Tier 1 or Tier 2 emission standards in Table 1 of 40 CFR 89.112 and that is subject to an enforceable state or local standard that requires the engine to be replaced no later than June 1, 2018, you may until January 1, 2015, or 12 years after the installation date of the engine (whichever is later), but not later than June 1, 2018, choose to comply with the management practices that are shown for stationary non-emergency CI RICE with a site rating of less than or equal to 300 HP in Table 2d of this subpart instead of the applicable emission limitations in Table 2d, operating limitations in Table 2b, and crankcase ventilation system requirements in § 63.6625(g). You must comply with the emission limitations in Table 2d and operating limitations in Table 2b that apply for non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions by January 1, 2015, or 12 years after the installation date of the engine (whichever is later), but not later than June 1, 2018. You must also comply with the crankcase ventilation system requirements in § 63.6625(g) by January 1, 2015, or 12 years after the installation date of the engine (whichever is later), but not later than June 1, 2018.

(e) If you own or operate an existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions that is certified to the Tier 3 (Tier 2 for engines above 560 kilowatt (kW)) emission standards in Table 1 of 40 CFR 89.112, you may comply with the requirements under this part by meeting the requirements for Tier 3 engines (Tier 2 for engines above 560 kW) in 40 CFR part 60 subpart IIII instead of the emission limitations and other requirements that would otherwise apply under this part for existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions.

(f) An existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP must meet the definition of remote stationary RICE in § 63.6675 on the initial compliance date for the engine, October 19, 2013, in order to be considered a remote stationary RICE under this subpart. Owners and operators of existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP that meet the definition of remote stationary RICE in § 63.6675 of this subpart as of October 19, 2013 must evaluate the status of their stationary RICE every 12 months. Owners and operators must keep records of the initial and annual evaluation of the status of the engine. If the evaluation indicates that the stationary RICE no longer meets the definition of remote stationary RICE in § 63.6675 of this subpart, the owner or operator must comply with all of the requirements for existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP that are not remote stationary RICE within 1 year of the evaluation.

[75 FR 9675, Mar. 3, 2010, as amended at 75 FR 51589, Aug. 20, 2010; 76 FR 12866, Mar. 9, 2011; 78 FR 6701, Jan. 30, 2013]

§ 63.6604 What fuel requirements must I meet if I own or operate a stationary CI RICE?

(a) If you own or operate an existing non-emergency, non-black start CI stationary RICE with a site rating of more than 300 brake HP with a displacement of less than 30 liters per cylinder that uses diesel fuel, you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel.

(b) Beginning January 1, 2015, if you own or operate an existing emergency CI stationary RICE with a site rating of more than 100 brake HP and a displacement of less than 30 liters per cylinder that uses diesel fuel and operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in § 63.6640(f)(2)(ii) and (iii) or that operates for the purpose specified in § 63.6640(f)(4)(ii), you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted.

(c) Beginning January 1, 2015, if you own or operate a new emergency CI stationary RICE with a site rating of more than 500 brake HP and a displacement of less than 30 liters per cylinder located at a major source of HAP that uses diesel fuel and operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in § 63.6640(f)(2)(ii) and (iii), you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted.

(d) Existing CI stationary RICE located in Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, at area sources in areas of Alaska that meet either § 63.6603(b)(1) or § 63.6603(b)(2), or are on offshore vessels that meet § 63.6603(c) are exempt from the requirements of this section.

[78 FR 6702, Jan. 30, 2013]

General Compliance Requirements

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

(a) You must be in compliance with the emission limitations, operating limitations, and other requirements in this subpart that apply to you at all times.

(b) At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

[75 FR 9675, Mar. 3, 2010, as amended at 78 FR 6702, Jan. 30, 2013]

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 new or reconstructed 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, as amended at 75 FR 51589, Aug. 20, 2010]

§ 63.6612 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions?

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

(a) You must conduct any initial performance test or other initial compliance demonstration according to Tables 4 and 5 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) An owner or operator is not required to conduct an initial performance test on a unit for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (b)(1) through (4) 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.

[75 FR 9676, Mar. 3, 2010, as amended at 75 FR 51589, Aug. 20, 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?

(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 that this subpart specifies in Table 4 to this subpart. If you own or operate a non-operational stationary RICE that is subject to performance testing, you do not need to start up the engine solely to conduct the performance test. Owners and operators of a non-operational engine can conduct the performance test when the engine is started up again. The test must be conducted at any load condition within plus or minus 10 percent of 100 percent load for the stationary RICE listed in paragraphs (b)(1) through (4) of this section.

(1) Non-emergency 4SRB stationary RICE with a site rating of greater than 500 brake HP located at a major source of HAP emissions.

(2) New non-emergency 4SLB stationary RICE with a site rating of greater than or equal to 250 brake HP located at a major source of HAP emissions.

(3) New non-emergency 2SLB stationary RICE with a site rating of greater than 500 brake HP located at a major source of HAP emissions.

(4) New non-emergency CI stationary RICE with a site rating of greater than 500 brake HP located at a major source of HAP emissions.

(c) [Reserved]

(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, unless otherwise specified in this subpart.

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

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

Where:

C_i = concentration of carbon monoxide (CO), total hydrocarbons (THC), or formaldehyde at the control device inlet,

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

R = percent reduction of CO, THC, or formaldehyde emissions.

(2) You must normalize the CO, THC, 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_2). If pollutant concentrations are to be corrected to 15 percent oxygen and CO_2 concentration is measured in lieu of oxygen concentration measurement, a CO_2 correction factor is needed. Calculate the CO_2 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:

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

Where:

F_o = Fuel factor based on the ratio of oxygen volume to the ultimate CO_2 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, dsm^3 /J ($dscf/10^6$ Btu).

F_c = Ratio of the volume of CO_2 produced to the gross calorific value of the fuel from Method 19, dsm^3 /J ($dscf/10^6$ Btu)

(ii) Calculate the CO_2 correction factor for correcting measurement data to 15 percent O_2 , as follows:

$$X_{CO2} = \frac{5.9}{F_o} \quad (Eq.\ 3)$$

Where:

X_{CO2} = CO_2 correction factor, percent.

5.9 = 20.9 percent O_2 —15 percent O_2 , the defined O_2 correction value, percent.

(iii) Calculate the CO, THC, and formaldehyde gas concentrations adjusted to 15 percent O_2 using CO_2 as follows:

$$C_{adj} = C_d \frac{X_{CO2}}{\%CO_2} \quad (Eq.\ 4)$$

Where:

C_{adj} = Calculated concentration of CO, THC, or formaldehyde adjusted to 15 percent O_2.

C_d = Measured concentration of CO, THC, or formaldehyde, uncorrected.

X_{CO2} = CO_2 correction factor, percent.

$\%CO_2$ = Measured CO_2 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 accurate in percentage of true value must be provided.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9676, Mar. 3, 2010; 78 FR 6702, Jan. 30, 2013]

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

(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 O_2 or CO_2 according to the requirements in paragraphs (a)(1) through (4) of this section. If you are meeting a requirement to reduce CO emissions, the CEMS must be installed at both the inlet and outlet of the control device. If you are meeting a requirement to limit the concentration of CO, the CEMS must be installed at the outlet of the control device.

(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_2 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 paragraphs (b)(1) through (6) of this section. For an affected source that is complying with the emission limitations and operating limitations on March 9, 2011, the requirements in paragraph (b) of this section are applicable September 6, 2011.

(1) You must prepare a site-specific monitoring plan that addresses the monitoring system design, data collection, and the quality assurance and quality control elements outlined in paragraphs (b)(1)(i) through (v) of this section and in § 63.8(d). As specified in § 63.8(f)(4), you may request approval of monitoring system quality assurance and quality control procedures alternative to those specified in paragraphs (b)(1) through (5) of this section in your site-specific monitoring plan.

(i) The performance criteria and design specifications for the monitoring system equipment, including the sample interface, detector signal analyzer, and data acquisition and calculations;

(ii) Sampling interface (*e.g.,* thermocouple) location such that the monitoring system will provide representative measurements;

(iii) Equipment performance evaluations, system accuracy audits, or other audit procedures;

(iv) Ongoing operation and maintenance procedures in accordance with provisions in § 63.8(c)(1)(ii) and (c)(3); and

(v) Ongoing reporting and recordkeeping procedures in accordance with provisions in § 63.10(c), (e)(1), and (e)(2)(i).

(2) You must install, operate, and maintain each CPMS in continuous operation according to the procedures in your site-specific monitoring plan.

(3) The CPMS must collect data at least once every 15 minutes (see also § 63.6635).

(4) For a CPMS for measuring temperature range, the temperature sensor must have a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit) or 1 percent of the measurement range, whichever is larger.

(5) You must conduct the CPMS equipment performance evaluation, system accuracy audits, or other audit procedures specified in your site-specific monitoring plan at least annually.

(6) You must conduct a performance evaluation of each CPMS in accordance with your site-specific monitoring plan.

(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.

(e) If you own or operate any of the following stationary RICE, you must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions:

(1) An existing stationary RICE with a site rating of less than 100 HP located at a major source of HAP emissions;

(2) An existing emergency or black start stationary RICE with a site rating of less than or equal to 500 HP located at a major source of HAP emissions;

(3) An existing emergency or black start stationary RICE located at an area source of HAP emissions;

(4) An existing non-emergency, non-black start stationary CI RICE with a site rating less than or equal to 300 HP located at an area source of HAP emissions;

(5) An existing non-emergency, non-black start 2SLB stationary RICE located at an area source of HAP emissions;

(6) An existing non-emergency, non-black start stationary RICE located at an area 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.

(7) An existing non-emergency, non-black start 4SLB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions;

(8) An existing non-emergency, non-black start 4SRB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions;

(9) An existing, non-emergency, non-black start 4SLB stationary RICE with a site rating greater than 500 HP located at an area source of HAP emissions that is operated 24 hours or less per calendar year; and

(10) An existing, non-emergency, non-black start 4SRB stationary RICE with a site rating greater than 500 HP located at an area source of HAP emissions that is operated 24 hours or less per calendar year.

(f) If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing emergency stationary RICE located at an area source of HAP emissions, you must install a non-resettable hour meter if one is not already installed.

(g) If you own or operate an existing non-emergency, non-black start CI engine greater than or equal to 300 HP that is not equipped with a closed crankcase ventilation system, you must comply with either paragraph (g)(1) or paragraph (2) of this section. Owners and operators must follow the manufacturer's specified maintenance requirements for operating and maintaining the open or closed crankcase ventilation systems and replacing the crankcase filters, or can request the Administrator to approve different maintenance requirements that are as protective as manufacturer requirements. Existing CI engines located at area sources in areas of Alaska that meet either § 63.6603(b)(1) or § 63.6603(b)(2) do not have to meet the requirements of this paragraph (g). Existing CI engines located on offshore vessels that meet § 63.6603(c) do not have to meet the requirements of this paragraph (g).

(1) Install a closed crankcase ventilation system that prevents crankcase emissions from being emitted to the atmosphere, or

(2) Install an open crankcase filtration emission control system that reduces emissions from the crankcase by filtering the exhaust stream to remove oil mist, particulates and metals.

(h) If you operate a new, reconstructed, or existing stationary engine, you must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup in Tables 1a, 2a, 2c, and 2d to this subpart apply.

(i) If you own or operate a stationary CI engine that is subject to the work, operation or management practices in items 1 or 2 of Table 2c to this subpart or in items 1 or 4 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 business days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

(j) If you own or operate a stationary SI engine that is subject to the work, operation or management practices in items 6, 7, or 8 of Table 2c to this subpart or in items 5, 6, 7, 9, or 11 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 business days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3606, Jan. 18, 2008; 75 FR 9676, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010; 76 FR 12866, Mar. 9, 2011; 78 FR 6703, Jan. 30, 2013]

§ 63.6630 How do I demonstrate initial compliance with the emission limitations, operating limitations, and other requirements?

(a) You must demonstrate initial compliance with each emission limitation, operating limitation, and other requirement 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.

(d) Non-emergency 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 76 percent or more can demonstrate initial compliance with the formaldehyde emission limit by testing for THC instead of formaldehyde. The testing must be conducted according to the requirements in Table 4 of this subpart. The average reduction of emissions of THC determined from the performance test must be equal to or greater than 30 percent.

(e) The initial compliance demonstration required for existing non-emergency 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year must be conducted according to the following requirements:

(1) The compliance demonstration must consist of at least three test runs.

(2) Each test run must be of at least 15 minute duration, except that each test conducted using the method in appendix A to this subpart must consist of at least one measurement cycle and include at least 2 minutes of test data phase measurement.

(3) If you are demonstrating compliance with the CO concentration or CO percent reduction requirement, you must measure CO emissions using one of the CO measurement methods specified in Table 4 of this subpart, or using appendix A to this subpart.

(4) If you are demonstrating compliance with the THC percent reduction requirement, you must measure THC emissions using Method 25A, reported as propane, of 40 CFR part 60, appendix A.

(5) You must measure O_2 using one of the O_2 measurement methods specified in Table 4 of this subpart. Measurements to determine O_2 concentration must be made at the same time as the measurements for CO or THC concentration.

(6) If you are demonstrating compliance with the CO or THC percent reduction requirement, you must measure CO or THC emissions and O_2 emissions simultaneously at the inlet and outlet of the control device.

[69 FR 33506, June 15, 2004, as amended at 78 FR 6704, Jan. 30, 2013]

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, required performance evaluations, and required quality assurance or control activities, you must monitor continuously at all times that the stationary RICE is operating. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

(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.

[69 FR 33506, June 15, 2004, as amended at 76 FR 12867, Mar. 9, 2011]

§ 63.6640 How do I demonstrate continuous compliance with the emission limitations, operating limitations, and other requirements?

(a) You must demonstrate continuous compliance with each emission limitation, operating limitation, and other requirements in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you according to methods specified in Table 6 to 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, Tables 2a and 2b, Table 2c, and Table 2d to 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) The annual compliance demonstration required for existing non-emergency 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year must be conducted according to the following requirements:

(1) The compliance demonstration must consist of at least one test run.

(2) Each test run must be of at least 15 minute duration, except that each test conducted using the method in appendix A to this subpart must consist of at least one measurement cycle and include at least 2 minutes of test data phase measurement.

(3) If you are demonstrating compliance with the CO concentration or CO percent reduction requirement, you must measure CO emissions using one of the CO measurement methods specified in Table 4 of this subpart, or using appendix A to this subpart.

(4) If you are demonstrating compliance with the THC percent reduction requirement, you must measure THC emissions using Method 25A, reported as propane, of 40 CFR part 60, appendix A.

(5) You must measure O_2 using one of the O_2 measurement methods specified in Table 4 of this subpart. Measurements to determine O_2 concentration must be made at the same time as the measurements for CO or THC concentration.

(6) If you are demonstrating compliance with the CO or THC percent reduction requirement, you must measure CO or THC emissions and O_2 emissions simultaneously at the inlet and outlet of the control device.

(7) If the results of the annual compliance demonstration show that the emissions exceed the levels specified in Table 6 of this subpart, the stationary RICE must be shut down as soon as safely possible, and appropriate corrective action must be taken (e.g., repairs, catalyst cleaning, catalyst replacement). The stationary RICE must be retested within 7 days of being restarted and the emissions must meet the levels specified in Table 6 of this subpart. If the retest shows that the emissions continue to exceed the specified levels, the stationary RICE must again be shut down as soon as safely possible, and the stationary RICE may not operate, except for purposes of startup and testing, until the owner/operator demonstrates through testing that the emissions do not exceed the levels specified in Table 6 of this subpart.

(d) 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 a 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 (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed 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 emergency stationary RICE, an existing limited use 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.

(f) If you own or operate an emergency stationary RICE, you must operate the emergency stationary RICE according to the requirements in paragraphs (f)(1) through (4) of this section. In order for the engine to be considered an emergency stationary RICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (4) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (4) of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.

(1) There is no time limit on the use of emergency stationary RICE in emergency situations.

(2) You may operate your emergency stationary RICE for any combination of the purposes specified in paragraphs (f)(2)(i) through (iii) of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraphs (f)(3) and (4) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).

(i) Emergency stationary RICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. 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 RICE beyond 100 hours per calendar year.

(ii) Emergency stationary RICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see § 63.14), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.

(iii) Emergency stationary RICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

(3) Emergency stationary RICE located at major sources of HAP may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. The 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, 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.

(4) Emergency stationary RICE located at area sources of HAP may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. Except as provided in paragraphs (f)(4)(i) and (ii) of this section, the 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(i) Prior to May 3, 2014, the 50 hours per year for non-emergency situations can be used for peak shaving or non-emergency demand response to generate income for a facility, or to otherwise supply power as part of a financial arrangement with another entity if the engine is operated as part of a peak shaving (load management program) with the local distribution system operator and the power is provided only to the facility itself or to support the local distribution system.

(ii) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:

(A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator.

(B) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.

(C) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.

(D) The power is provided only to the facility itself or to support the local transmission and distribution system.

(E) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3606, Jan. 18, 2008; 75 FR 9676, Mar. 3, 2010; 75 FR 51591, Aug. 20, 2010; 78 FR 6704, Jan. 30, 2013]

Notifications, Reports, and Records

§ 63.6645 What notifications must I submit and when?

(a) 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 if you own or operate any of the following;

(1) An existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions.

(2) An existing stationary RICE located at an area source of HAP emissions.

(3) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(4) 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.

(5) This requirement does not apply if you own or operate an existing stationary RICE less than 100 HP, an existing stationary emergency RICE, or an existing stationary RICE that is not subject to any numerical emission standards.

(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).

(i) If you own or operate an existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions that is certified to the Tier 1 or Tier 2 emission standards in Table 1 of 40 CFR 89.112 and subject to an enforceable state or local standard requiring engine replacement and you intend to meet management practices rather than emission limits, as specified in § 63.6603(d), you must submit a notification by March 3, 2013, stating that you intend to use the provision in § 63.6603(d) and identifying the state or local regulation that the engine is subject to.

[73 FR 3606, Jan. 18, 2008, as amended at 75 FR 9677, Mar. 3, 2010; 75 FR 51591, Aug. 20, 2010; 78 FR 6705, Jan. 30, 2013]

§ 63.6650 What reports must I submit and when?

(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 (b)(9) of this section.

(1) For semiannual Compliance reports, 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) For semiannual Compliance reports, 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) For semiannual Compliance reports, 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) For semiannual Compliance reports, 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 (b)(4) of this section.

(6) For annual Compliance reports, 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 December 31.

(7) For annual Compliance reports, the first Compliance report must be postmarked or delivered no later than January 31 following the end of the first calendar year after the compliance date that is specified for your affected source in § 63.6595.

(8) For annual Compliance reports, each subsequent Compliance report must cover the annual reporting period from January 1 through December 31.

(9) For annual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than January 31.

(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 malfunction during the reporting period, the compliance report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period

and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with § 63.6605(b), including actions taken to correct a malfunction.

(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.

(h) If you own or operate an emergency stationary RICE with a site rating of more than 100 brake HP that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in § 63.6640(f)(2)(ii) and (iii) or that operates for the purpose specified in § 63.6640(f)(4)(ii), you must submit an annual report according to the requirements in paragraphs (h)(1) through (3) of this section.

(1) The report must contain the following information:

(i) Company name and address where the engine is located.

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

(iii) Engine site rating and model year.

(iv) Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place.

(v) Hours operated for the purposes specified in § 63.6640(f)(2)(ii) and (iii), including the date, start time, and end time for engine operation for the purposes specified in § 63.6640(f)(2)(ii) and (iii).

(vi) Number of hours the engine is contractually obligated to be available for the purposes specified in § 63.6640(f)(2)(ii) and (iii).

(vii) Hours spent for operation for the purpose specified in § 63.6640(f)(4)(ii), including the date, start time, and end time for engine operation for the purposes specified in § 63.6640(f)(4)(ii). The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine.

(viii) If there were no deviations from the fuel requirements in § 63.6604 that apply to the engine (if any), a statement that there were no deviations from the fuel requirements during the reporting period.

(ix) If there were deviations from the fuel requirements in § 63.6604 that apply to the engine (if any), information on the number, duration, and cause of deviations, and the corrective action taken.

(2) The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year.

(3) The annual report must be submitted electronically using the subpart specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (*www.epa.gov/cdx*). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written report must be submitted to the Administrator at the appropriate address listed in § 63.13.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9677, Mar. 3, 2010; 78 FR 6705, Jan. 30, 2013]

§ 63.6655 What records must I keep?

(a) If you must comply with the emission and operating limitations, you must keep the records described in paragraphs (a)(1) through (a)(5), (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) Records of the occurrence and duration of each malfunction of operation (*i.e.,* process equipment) or the air pollution control and monitoring equipment.

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

(4) Records of all required maintenance performed on the air pollution control and monitoring equipment.

(5) Records of actions taken during periods of malfunction to minimize emissions in accordance with § 63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

(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.

(e) You must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan if you own or operate any of the following stationary RICE;

(1) An existing stationary RICE with a site rating of less than 100 brake HP located at a major source of HAP emissions.

(2) An existing stationary emergency RICE.

(3) An existing stationary RICE located at an area source of HAP emissions subject to management practices as shown in Table 2d to this subpart.

(f) If you own or operate any of the stationary RICE in paragraphs (f)(1) through (2) of this section, you 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. If the engine is used for the purposes specified in § 63.6640(f)(2)(ii) or (iii) or § 63.6640(f)(4)(ii), the owner or operator must keep records of the notification of the emergency situation, and the date, start time, and end time of engine operation for these purposes.

(1) An existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions that does not meet the standards applicable to non-emergency engines.

(2) An existing emergency stationary RICE located at an area source of HAP emissions that does not meet the standards applicable to non-emergency engines.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9678, Mar. 3, 2010; 75 FR 51592, Aug. 20, 2010; 78 FR 6706, Jan. 30, 2013]

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

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

(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 for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to § 63.10(b)(1).

[69 FR 33506, June 15, 2004, as amended at 75 FR 9678, Mar. 3, 2010]

Other Requirements and Information

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

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 a 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 (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed 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 specified in Table 8: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing stationary RICE that combusts landfill 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 specified in Table 8 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.

[75 FR 9678, Mar. 3, 2010]

§ 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?

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:

Alaska Railbelt Grid means the service areas of the six regulated public utilities that extend from Fairbanks to Anchorage and the Kenai Peninsula. These utilities are Golden Valley Electric Association; Chugach Electric Association; Matanuska Electric Association; Homer Electric Association; Anchorage Municipal Light & Power; and the City of Seward Electric System.

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.

Backup power for renewable energy means an engine that provides backup power to a facility that generates electricity from renewable energy resources, as that term is defined in Alaska Statute 42.45.045(l)(5) (incorporated by reference, see § 63.14).

Black start engine means an engine whose only purpose is to start up a combustion turbine.

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

Commercial emergency stationary RICE means an emergency stationary RICE used in commercial establishments such as office buildings, hotels, stores, telecommunications facilities, restaurants, financial institutions such as banks, doctor's offices, and sports and performing arts facilities.

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. Diesel fuel also includes any non-distillate fuel with comparable physical and chemical properties (*e.g.* biodiesel) that is suitable for use in compression ignition engines.

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_2 .

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 reciprocating internal combustion engine that meets all of the criteria in paragraphs (1) through (3) of this definition. All emergency stationary RICE must comply with the requirements specified in § 63.6640(f) in order to be considered emergency stationary RICE. If the engine does not comply with the requirements specified in § 63.6640(f), then it is not considered to be an emergency stationary RICE under this subpart.

(1) The stationary RICE is operated to provide electrical power or mechanical work during an emergency situation. 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.

(2) The stationary RICE is operated under limited circumstances for situations not included in paragraph (1) of this definition, as specified in § 63.6640(f).

(3) The stationary RICE operates as part of a financial arrangement with another entity in situations not included in paragraph (1) of this definition only as allowed in § 63.6640(f)(2)(ii) or (iii) and § 63.6640(f)(4)(i) or (ii).

Engine startup means the time from initial start until applied load and engine and associated equipment reaches steady state or normal operation. For stationary engine with catalytic controls, engine startup means the time from initial start until applied load and engine and associated equipment, including the catalyst, reaches steady state or normal operation.

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.

Institutional emergency stationary RICE means an emergency stationary RICE used in institutional establishments such as medical centers, nursing homes, research centers, institutions of higher education, correctional facilities, elementary and secondary schools, libraries, religious establishments, police stations, and fire stations.

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_2 .

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_X) control device for rich burn engines that, in a two-step reaction, promotes the conversion of excess oxygen, NO_X, CO, and volatile organic compounds (VOC) into CO_2, 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.

Remote stationary RICE means stationary RICE meeting any of the following criteria:

(1) Stationary RICE located in an offshore area that is beyond the line of ordinary low water along that portion of the coast of the United States that is in direct contact with the open seas and beyond the line marking the seaward limit of inland waters.

(2) Stationary RICE located on a pipeline segment that meets both of the criteria in paragraphs (2)(i) and (ii) of this definition.

(i) A pipeline segment with 10 or fewer buildings intended for human occupancy and no buildings with four or more stories within 220 yards (200 meters) on either side of the centerline of any continuous 1-mile (1.6 kilometers) length of pipeline. Each separate dwelling unit in a multiple dwelling unit building is counted as a separate building intended for human occupancy.

(ii) The pipeline segment does not lie within 100 yards (91 meters) of either a building or a small, well-defined outside area (such as a playground, recreation area, outdoor theater, or other place of public assembly) that is occupied by 20 or more persons on at least 5 days a week for 10 weeks in any 12-month period. The days and weeks need not be consecutive. The building or area is considered occupied for a full day if it is occupied for any portion of the day.

(iii) For purposes of this paragraph (2), the term pipeline segment means all parts of those physical facilities through which gas moves in transportation, including but not limited to pipe, valves, and other appurtenance attached to pipe, compressor units, metering stations, regulator stations, delivery stations, holders, and fabricated assemblies. Stationary RICE located within 50 yards (46 meters) of the pipeline segment providing power for equipment on a pipeline segment are part of the pipeline segment. Transportation of gas means the gathering, transmission, or distribution of gas by pipeline, or the storage of gas. A building is intended for human occupancy if its primary use is for a purpose involving the presence of humans.

(3) Stationary RICE that are not located on gas pipelines and that have 5 or fewer buildings intended for human occupancy and no buildings with four or more stories within a 0.25 mile radius around the engine. A building is intended for human occupancy if its primary use is for a purpose involving the presence of humans.

Residential emergency stationary RICE means an emergency stationary RICE used in residential establishments such as homes or apartment buildings.

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 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 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 PPPPP 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; 75 FR 9679, Mar. 3, 2010; 75 FR 51592, Aug. 20, 2010; 76 FR 12867, Mar. 9, 2011; 78 FR 6706, Jan. 30, 2013]

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

As stated in §§ 63.6600 and 63.6640, you must comply with the following emission limitations at 100 percent load plus or minus 10 percent 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 emission limitation, except during periods of startup . . .	During periods of startup you must . . .
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	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.[1]
	b. Limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O_2	

[1]Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[75 FR 9679, Mar. 3, 2010, as amended at 75 FR 51592, Aug. 20, 2010]

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

As stated in §§ 63.6600, 63.6603, 63.6630 and 63.6640, you must comply with the following operating limitations for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions:

TABLE 1B TO SUBPART ZZZZ OF PART 63—OPERATING LIMITATIONS FOR EXISTING, NEW, AND RECONSTRUCTED SI 4SRB STATIONARY RICE >500 HP LOCATED AT A MAJOR SOURCE OF HAP EMISSIONS

For each . . .	You must meet the following operating limitation, except during periods of startup . . .
1. existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and using NSCR; or existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O_2 and using NSCR;	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 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 750 °F and less than or equal to 1250 °F.[1]
2. existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions 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.
existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O_2 and not using NSCR.	

[1] Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.8(f) for a different temperature range.

[78 FR 6706, Jan. 30, 2013]

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

As stated in §§ 63.6600 and 63.6640, 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:

For each . . .	You must meet the following emission limitation, except during periods of startup . . .	During periods of startup you must . . .
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_2. 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_2 until June 15, 2007	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.[1]
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_2	
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_2	

[1] Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[75 FR 9680, Mar. 3, 2010]

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

As stated in §§ 63.6600, 63.6601, 63.6603, 63.6630, and 63.6640, you must comply with the following operating limitations for new and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions; new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions; and existing CI stationary RICE >500 HP:

TABLE 2B TO SUBPART ZZZZ OF PART 63—OPERATING LIMITATIONS FOR NEW AND RECONSTRUCTED 2SLB AND CI STATIONARY RICE >500 HP LOCATED AT A MAJOR SOURCE OF HAP EMISSIONS, NEW AND RECONSTRUCTED 4SLB STATIONARY RICE ≥250 HP LOCATED AT A MAJOR SOURCE OF HAP EMISSIONS, EXISTING CI STATIONARY RICE >500 HP

For each . . .	**You must meet the following operating limitation, except during periods of startup . . .**
1. New and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions complying with the requirement to reduce CO emissions and using an oxidation catalyst; and New and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions 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.[1]
2. Existing CI stationary RICE >500 HP complying with the requirement to limit or reduce the concentration of CO 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 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.[1]
3. New and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions complying with the requirement to reduce CO emissions and not using an oxidation catalyst; and	Comply with any operating limitations approved by the Administrator.

For each . . .	You must meet the following operating limitation, except during periods of startup . . .
New and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and not using an oxidation catalyst; and	
existing CI stationary RICE >500 HP complying with the requirement to limit or reduce the concentration of CO in the stationary RICE exhaust and not using an oxidation catalyst.	

[1] Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.8(f) for a different temperature range.

[78 FR 6707, Jan. 30, 2013]

Table 2c to Subpart ZZZZ of Part 63—Requirements for Existing Compression Ignition Stationary RICE Located at a Major Source of HAP Emissions and Existing Spark Ignition Stationary RICE ≤500 HP Located at a Major Source of HAP Emissions

As stated in §§ 63.6600, 63.6602, and 63.6640, you must comply with the following requirements for existing compression ignition stationary RICE located at a major source of HAP emissions and existing spark ignition stationary RICE ≤500 HP located at a major source of HAP emissions:

TABLE 2C TO SUBPART ZZZZ OF PART 63—REQUIREMENTS FOR EXISTING COMPRESSION IGNITION STATIONARY RICE LOCATED AT A MAJOR SOURCE OF HAP EMISSIONS AND EXISTING SPARK IGNITION STATIONARY RICE ≤500 HP LOCATED AT A MAJOR SOURCE OF HAP EMISSIONS

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
1. Emergency stationary CI RICE and black start stationary CI RICE [1]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first.[2] b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.[3]	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.[3]
2. Non-Emergency, non-black start stationary CI RICE <100 HP	a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first.[2] b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.[3]	
3. Non-Emergency, non-black start CI stationary RICE 100≤HP≤300 HP	Limit concentration of CO in the stationary RICE exhaust to 230 ppmvd or less at 15 percent O_2.	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
4. Non-Emergency, non-black start CI stationary RICE 300>HP≤500." is corrected to read "4. Non-Emergency, non-black start CI stationary RICE 300<HP≤500.	a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd or less at 15 percent O_2; or b. Reduce CO emissions by 70 percent or more.	
5. Non-Emergency, non-black start stationary CI RICE >500 HP	a. Limit concentration of CO in the stationary RICE exhaust to 23 ppmvd or less at 15 percent O_2; or b. Reduce CO emissions by 70 percent or more.	
6. Emergency stationary SI RICE and black start stationary SI RICE.[1]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first;[2] b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.[3]	
7. Non-Emergency, non-black start stationary SI RICE <100 HP that are not 2SLB stationary RICE	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;[2] b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary;	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.[3]	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
8. Non-Emergency, non-black start 2SLB stationary SI RICE <100 HP	a. Change oil and filter every 4,320 hours of operation or annually, whichever comes first;[2] b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first, and replace as necessary;	
	c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary.[3]	
9. Non-emergency, non-black start 2SLB stationary RICE 100≤HP≤500	Limit concentration of CO in the stationary RICE exhaust to 225 ppmvd or less at 15 percent O_2.	
10. Non-emergency, non-black start 4SLB stationary RICE 100≤HP≤500	Limit concentration of CO in the stationary RICE exhaust to 47 ppmvd or less at 15 percent O_2.	
11. Non-emergency, non-black start 4SRB stationary RICE 100≤HP≤500	Limit concentration of formaldehyde in the stationary RICE exhaust to 10.3 ppmvd or less at 15 percent O_2.	
12. Non-emergency, non-black start stationary RICE 100≤HP≤500 which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis	Limit concentration of CO in the stationary RICE exhaust to 177 ppmvd or less at 15 percent O_2.	

[1] If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements on the schedule required in Table 2c of this subpart, or if performing the work practice on the required schedule would otherwise pose an unacceptable risk under federal, state, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under federal, state, or local law has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under federal, state, or local law has abated. Sources must report any failure to perform the work practice on the schedule required and the federal, state or local law under which the risk was deemed unacceptable.

[2] Sources have the option to utilize an oil analysis program as described in § 63.6625(i) or (j) in order to extend the specified oil change requirement in Table 2c of this subpart.

[3] Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[78 FR 6708, Jan. 30, 2013, as amended at 78 FR 14457, Mar. 6, 2013]

Table 2d to Subpart ZZZZ of Part 63—Requirements for Existing Stationary RICE Located at Area Sources of HAP Emissions

As stated in §§ 63.6603 and 63.6640, you must comply with the following requirements for existing stationary RICE located at area sources of HAP emissions:

TABLE 2D TO SUBPART ZZZZ OF PART 63—REQUIREMENTS FOR EXISTING STATIONARY RICE LOCATED AT AREA SOURCES OF HAP EMISSIONS

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
1. Non-Emergency, non-black start CI stationary RICE ≤300 HP	a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first;[1] b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.
2. Non-Emergency, non-black start CI stationary RICE 300<HP≤500	a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd at 15 percent O_2; or	
	b. Reduce CO emissions by 70 percent or more.	
3. Non-Emergency, non-black start CI stationary RICE >500 HP	a. Limit concentration of CO in the stationary RICE exhaust to 23 ppmvd at 15 percent O_2; or	
	b. Reduce CO emissions by 70 percent or more.	

For each . . .	**You must meet the following requirement, except during periods of startup . . .**	**During periods of startup you must . . .**
4. Emergency stationary CI RICE and black start stationary CI RICE.[2]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first;[1]	
	b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	
5. Emergency stationary SI RICE; black start stationary SI RICE; non-emergency, non-black start 4SLB stationary RICE >500 HP that operate 24 hours or less per calendar year; non-emergency, non-black start 4SRB stationary RICE >500 HP that operate 24 hours or less per calendar year.[2]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first;[1]; b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	
6. Non-emergency, non-black start 2SLB stationary RICE	a. Change oil and filter every 4,320 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first, and replace as necessary; and	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
	c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary.	
7. Non-emergency, non-black start 4SLB stationary RICE ≤500 HP	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	
8. Non-emergency, non-black start 4SLB remote stationary RICE >500 HP	a. Change oil and filter every 2,160 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 2,160 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 2,160 hours of operation or annually, whichever comes first, and replace as necessary.	
9. Non-emergency, non-black start 4SLB stationary RICE >500 HP that are not remote stationary RICE and that operate more than 24 hours per calendar year	Install an oxidation catalyst to reduce HAP emissions from the stationary RICE.	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
10. Non-emergency, non-black start 4SRB stationary RICE ≤500 HP	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	
11. Non-emergency, non-black start 4SRB remote stationary RICE >500 HP	a. Change oil and filter every 2,160 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 2,160 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 2,160 hours of operation or annually, whichever comes first, and replace as necessary.	
12. Non-emergency, non-black start 4SRB stationary RICE >500 HP that are not remote stationary RICE and that operate more than 24 hours per calendar year	Install NSCR to reduce HAP emissions from the stationary RICE.	
13. Non-emergency, non-black start stationary RICE which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;[1] b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	

[1] Sources have the option to utilize an oil analysis program as described in § 63.6625(i) or (j) in order to extend the specified oil change requirement in Table 2d of this subpart.

[2] If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in Table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under federal, state, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under federal, state, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under federal, state, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the federal, state or local law under which the risk was deemed unacceptable.

[78 FR 6709, Jan. 30, 2013]

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

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

TABLE 3 TO SUBPART ZZZZ OF PART 63—SUBSEQUENT PERFORMANCE TESTS

For each . . .	Complying with the requirement to . . .	You must . . .
1. New or reconstructed 2SLB stationary RICE >500 HP located at major sources; new or reconstructed 4SLB stationary RICE ≥250 HP located at major sources; and new or reconstructed CI stationary RICE >500 HP located at major sources	Reduce CO emissions and not using a CEMS	Conduct subsequent performance tests semiannually.[1]
2. 4SRB stationary RICE ≥5,000 HP located at major sources	Reduce formaldehyde emissions	Conduct subsequent performance tests semiannually.[1]
3. Stationary RICE >500 HP located at major sources and new or reconstructed 4SLB stationary RICE 250≤HP≤500 located at major sources	Limit the concentration of formaldehyde in the stationary RICE exhaust	Conduct subsequent performance tests semiannually.[1]
4. Existing non-emergency, non-black start CI stationary RICE >500 HP that are not limited use stationary RICE	Limit or reduce CO emissions and not using a CEMS	Conduct subsequent performance tests every 8,760 hours or 3 years, whichever comes first.
5. Existing non-emergency, non-black start CI stationary RICE >500 HP that are limited use stationary RICE	Limit or reduce CO emissions and not using a CEMS	Conduct subsequent performance tests every 8,760 hours or 5 years, whichever comes first.

[1] 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.

[78 FR 6711, Jan. 30, 2013]

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

As stated in §§ 63.6610, 63.6611, 63.6612, 63.6620, and 63.6640, you must comply with the following requirements for performance tests for stationary RICE:

TABLE 4 TO SUBPART ZZZZ OF PART 63. REQUIREMENTS FOR PERFORMANCE TESTS

For each . . .	Complying with the requirement to . . .	You must . . .	Using . . .	According to the following requirements . . .
1. 2SLB, 4SLB, and CI stationary RICE	a. reduce CO emissions	i. Measure the O_2 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 (Reapproved 2005).[a c]	(a) Measurements to determine O_2 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) ASTM D6522-00 (Reapproved 2005) [a b c] or Method 10 of 40 CFR part 60, appendix A	(a) The CO concentration must be at 15 percent O_2, 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_2 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 (Reapproved 2005).[a]	(a) measurements to determine O_2 concentration must be made at the same time as the measurements for formaldehyde or THC 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]	(a) measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde or THC concentration.
		iv. If demonstrating compliance with the formaldehyde percent reduction requirement, 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,[a] 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_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.

For each . . .	Complying with the requirement to . . .	You must . . .	Using . . .	According to the following requirements . . .
		v. If demonstrating compliance with the THC percent reduction requirement, measure THC at the inlet and the outlet of the control device	(1) Method 25A, reported as propane, of 40 CFR part 60, appendix A	(a) THC concentration must be at 15 percent O_2, 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 or CO in the stationary RICE exhaust	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) if using a control device, the sampling site must be located at the outlet of the control device.
		ii. Determine the O_2concentration 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 (Reapproved 2005).[a]	(a) measurements to determine O_2concentration must be made at the same time and location as the measurements for formaldehyde or CO 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]	(a) measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde or CO concentration.
		iv. Measure formaldehyde at the exhaust of the stationary RICE; or	(1) Method 320 or 323 of 40 CFR part 63, appendix A; or ASTM D6348-03,[a]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_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
		v. measure CO at the exhaust of the stationary RICE.	(1) Method 10 of 40 CFR part 60, appendix A, ASTM Method D6522-00 (2005),[a] [c]Method 320 of 40 CFR part 63, appendix A, or ASTM D6348-03.[a]	(a) CO concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.

[a] Incorporated by reference, see 40 CFR 63.14. You may also obtain copies from University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

[b] You may also use Method 320 of 40 CFR part 63, appendix A, or ASTM D6348-03.

[c] ASTM-D6522-00 (2005) may be used to test both CI and SI stationary RICE.

[78 FR 6711, Jan. 30, 2013]

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

As stated in §§ 63.6612, 63.6625 and 63.6630, you must initially comply with the emission and operating limitations as required by the following:

TABLE 5 TO SUBPART ZZZZ OF PART 63—INITIAL COMPLIANCE WITH EMISSION LIMITATIONS, OPERATING LIMITATIONS, AND OTHER REQUIREMENTS

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
1. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	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. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Limit the concentration of CO, using oxidation catalyst, and using a CPMS	i. The average CO concentration determined from the initial performance test is less than or equal to the CO 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.

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
3. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	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.
4. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Limit the concentration of CO, and not using oxidation catalyst	i. The average CO concentration determined from the initial performance test is less than or equal to the CO 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.
5. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Reduce CO emissions, and using a CEMS	i. You have installed a CEMS to continuously monitor CO and either O_2 or CO_2 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.
6. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Limit the concentration of CO, and using a CEMS	i. You have installed a CEMS to continuously monitor CO and either O_2 or CO_2 at the outlet of the oxidation catalyst according to the requirements in § 63.6625(a); and

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
		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 concentration of CO calculated using § 63.6620 is less than or equal to the CO emission limitation. The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is based on the average concentration measured during the 4-hour period.
7. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	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, or the average reduction of emissions of THC determined from the initial performance test is equal to or greater than 30 percent; 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.
8. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	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 or the average reduction of emissions of THC determined from the initial performance test is equal to or greater than 30 percent; 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.

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
9. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	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_2, 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.
10. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	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_2, 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.
11. Existing non-emergency stationary RICE 100≤HP≤500 located at a major source of HAP, and existing non-emergency stationary CI RICE 300<HP≤500 located at an area source of HAP	a. Reduce CO emissions	i. The average reduction of emissions of CO or formaldehyde, as applicable determined from the initial performance test is equal to or greater than the required CO or formaldehyde, as applicable, percent reduction.
12. Existing non-emergency stationary RICE 100≤HP≤500 located at a major source of HAP, and existing non-emergency stationary CI RICE 300<HP≤500 located at an area source of HAP	a. Limit the concentration of formaldehyde or CO in the stationary RICE exhaust	i. The average formaldehyde or CO concentration, as applicable, corrected to 15 percent O_2, dry basis, from the three test runs is less than or equal to the formaldehyde or CO emission limitation, as applicable.
13. Existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year	a. Install an oxidation catalyst	i. You have conducted an initial compliance demonstration as specified in § 63.6630(e) to show that the average reduction of emissions of CO is 93 percent or more, or the average CO concentration is less than or equal to 47 ppmvd at 15 percent O_2;

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in § 63.6625(b), or you have installed equipment to automatically shut down the engine if the catalyst inlet temperature exceeds 1350 °F.
14. Existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year	a. Install NSCR	i. You have conducted an initial compliance demonstration as specified in § 63.6630(e) to show that the average reduction of emissions of CO is 75 percent or more, the average CO concentration is less than or equal to 270 ppmvd at 15 percent O_2, or the average reduction of emissions of THC is 30 percent or more;
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in § 63.6625(b), or you have installed equipment to automatically shut down the engine if the catalyst inlet temperature exceeds 1250 °F.

[78 FR 6712, Jan. 30, 2013]

Table 6 to Subpart ZZZZ of Part 63—Continuous Compliance With Emission Limitations, and Other Requirements

As stated in § 63.6640, you must continuously comply with the emissions and operating limitations and work or management practices as required by the following:

TABLE 6 TO SUBPART ZZZZ OF PART 63—CONTINUOUS COMPLIANCE WITH EMISSION LIMITATIONS, AND OTHER REQUIREMENTS

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
1. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE >500 HP located at a major source of HAP	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 [a]; 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. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE >500 HP located at a major source of HAP	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 [a]; 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.

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
3. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, new or reconstructed non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP	a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, 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 or concentration 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, or that the emission remain at or below the CO concentration limit; 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. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	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. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	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; and
		iii. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
6. Non-emergency 4SRB stationary RICE with a brake HP ≥5,000 located at a major source of HAP	a. Reduce formaldehyde emissions	Conducting semiannual performance tests for formaldehyde to demonstrate that the required formaldehyde percent reduction is achieved, or to demonstrate that the average reduction of emissions of THC determined from the performance test is equal to or greater than 30 percent.[a]
7. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP	a. 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 [a]; 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. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP	a. 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 [a]; 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.

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
9. Existing emergency and black start stationary RICE ≤500 HP located at a major source of HAP, existing non-emergency stationary RICE <100 HP located at a major source of HAP, existing emergency and black start stationary RICE located at an area source of HAP, existing non-emergency stationary CI RICE ≤300 HP located at an area source of HAP, existing non-emergency 2SLB stationary RICE located at an area source of HAP, existing non-emergency stationary SI RICE located at an area source of HAP which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, existing non-emergency 4SLB and 4SRB stationary RICE ≤500 HP located at an area source of HAP, existing non-emergency 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate 24 hours or less per calendar year, and existing non-emergency 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that are remote stationary RICE	a. Work or Management practices	i. Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or ii. Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.
10. Existing stationary CI RICE >500 HP that are not limited use stationary RICE	a. Reduce CO emissions, or limit the concentration of CO in the stationary RICE exhaust, and using oxidation catalyst	i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; 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

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
		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.
11. Existing stationary CI RICE >500 HP that are not limited use stationary RICE	a. Reduce CO emissions, or limit the concentration of CO in the stationary RICE exhaust, and not using oxidation catalyst	i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; 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.
12. Existing limited use CI stationary RICE >500 HP	a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and using an oxidation catalyst	i. Conducting performance tests every 8,760 hours or 5 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; 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

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
		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.
13. Existing limited use CI stationary RICE >500 HP	a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and not using an oxidation catalyst	i. Conducting performance tests every 8,760 hours or 5 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; 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.
14. Existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year	a. Install an oxidation catalyst	i. Conducting annual compliance demonstrations as specified in § 63.6640(c) to show that the average reduction of emissions of CO is 93 percent or more, or the average CO concentration is less than or equal to 47 ppmvd at 15 percent O_2; and either ii. Collecting the catalyst inlet temperature data according to § 63.6625(b), reducing these data to 4-hour rolling averages; and maintaining the 4-hour rolling averages within the limitation of greater than 450 °F and less than or equal to 1350 °F for the catalyst inlet temperature; or iii. Immediately shutting down the engine if the catalyst inlet temperature exceeds 1350 °F.

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
15. Existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year	a. Install NSCR	i. Conducting annual compliance demonstrations as specified in § 63.6640(c) to show that the average reduction of emissions of CO is 75 percent or more, the average CO concentration is less than or equal to 270 ppmvd at 15 percent O_2, or the average reduction of emissions of THC is 30 percent or more; and either ii. Collecting the catalyst inlet temperature data according to § 63.6625(b), reducing these data to 4-hour rolling averages; and maintaining the 4-hour rolling averages within the limitation of greater than or equal to 750 °F and less than or equal to 1250 °F for the catalyst inlet temperature; or iii. Immediately shutting down the engine if the catalyst inlet temperature exceeds 1250 °F.

[a] 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.

[78 FR 6715, Jan. 30, 2013]

Table 7 to Subpart ZZZZ of Part 63—Requirements for Reports

As stated in § 63.6650, you must comply with the following requirements for reports:

TABLE 7 TO SUBPART ZZZZ OF PART 63—REQUIREMENTS FOR REPORTS

For each . . .	You must submit a . . .	The report must contain . . .	You must submit the report . . .
1. Existing non-emergency, non-black start stationary RICE 100≤HP≤500 located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE >500 HP located at a major source of HAP; existing non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE >300 HP located at an area source of HAP; new or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP; and new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP	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)(1)-(5) for engines that are not limited use stationary RICE subject to numerical emission limitations; and ii. Annually according to the requirements in § 63.6650(b)(6)-(9) for engines that are limited use stationary RICE subject to numerical emission limitations.
		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 malfunction during the reporting period, the information in § 63.6650(c)(4).	i. Semiannually according to the requirements in § 63.6650(b).
2. New or reconstructed non-emergency stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis	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.

For each . . .	You must submit a . . .	The report must contain . . .	You must submit the report . . .
		b. The operating limits provided in your federally enforceable permit, and any deviations from these limits; and	i. See item 2.a.i.
		c. Any problems or errors suspected with the meters.	i. See item 2.a.i.
3. Existing non-emergency, non-black start 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that operate more than 24 hours per calendar year	Compliance report	a. The results of the annual compliance demonstration, if conducted during the reporting period.	i. Semiannually according to the requirements in § 63.6650(b)(1)-(5).
4. Emergency stationary RICE that operate or are contractually obligated to be available for more than 15 hours per year for the purposes specified in § 63.6640(f)(2)(ii) and (iii) or that operate for the purposes specified in § 63.6640(f)(4)(ii)	Report	a. The information in § 63.6650(h)(1)	i. annually according to the requirements in § 63.6650(h)(2)-(3).

[78 FR 6719, Jan. 30, 2013]

Table 8 to Subpart ZZZZ of Part 63—Applicability of General Provisions to Subpart ZZZZ.

As stated in § 63.6665, you must comply with the following applicable general provisions.

General provisions citation	Subject of citation	Applies to subpart	Explanation
§ 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]		
§ 63.6(c)(5)	Compliance dates for existing area sources that become major sources	Yes.	
§ 63.6(d)	[Reserved]		
§ 63.6(e)	Operation and maintenance	No.	
§ 63.6(f)(1)	Applicability of standards	No.	
§ 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.	

General provisions citation	Subject of citation	Applies to subpart	Explanation
§ 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, 63.6611, and 63.6612.
§ 63.7(a)(3)	CAA section 114 authority	Yes.	
§ 63.7(b)(1)	Notification of performance test	Yes	Except that § 63.7(b)(1) only applies as specified in § 63.6645.
§ 63.7(b)(2)	Notification of rescheduling	Yes	Except that § 63.7(b)(2) only applies as specified in § 63.6645.
§ 63.7(c)	Quality assurance/test plan	Yes	Except that § 63.7(c) only applies as specified in § 63.6645.
§ 63.7(d)	Testing facilities	Yes.	
§ 63.7(e)(1)	Conditions for conducting performance tests	No.	Subpart ZZZZ specifies conditions for conducting performance tests at § 63.6620.
§ 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.	

General provisions citation	Subject of citation	Applies to subpart	Explanation
§ 63.8(c)(1)	Monitoring system operation and maintenance	Yes.	
§ 63.8(c)(1)(i)	Routine and predictable SSM	No	
§ 63.8(c)(1)(ii)	SSM not in Startup Shutdown Malfunction Plan	Yes.	
§ 63.8(c)(1)(iii)	Compliance with operation and maintenance requirements	No	
§ 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.
		Except that § 63.8(e) only applies as specified in § 63.6645.	
§ 63.8(f)(1)-(5)	Alternative monitoring method	Yes	Except that § 63.8(f)(4) only applies as specified in § 63.6645.
§ 63.8(f)(6)	Alternative to relative accuracy test	Yes	Except that § 63.8(f)(6) only applies as specified in § 63.6645.
§ 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.

General provisions citation	Subject of citation	Applies to subpart	Explanation
		Except that § 63.9(b) only applies as specified in § 63.6645.	
§ 63.9(c)	Request for compliance extension	Yes	Except that § 63.9(c) only applies as specified in § 63.6645.
§ 63.9(d)	Notification of special compliance requirements for new sources	Yes	Except that § 63.9(d) only applies as specified in § 63.6645.
§ 63.9(e)	Notification of performance test	Yes	Except that § 63.9(e) only applies as specified in § 63.6645.
§ 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	Except that § 63.9(g) only applies as specified in § 63.6645.
§ 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.
		Except that § 63.9(g) only applies as specified in § 63.6645.	
§ 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.
			Except that § 63.9(h) only applies as specified in § 63.6645.
§ 63.9(i)	Adjustment of submittal deadlines	Yes.	
§ 63.9(j)	Change in previous information	Yes.	
§ 63.10(a)	Administrative provisions for recordkeeping/reporting	Yes.	
§ 63.10(b)(1)	Record retention	Yes	Except that the most recent 2 years of data do not have to be retained on site.
§ 63.10(b)(2)(i)-(v)	Records related to SSM	No.	

General provisions citation	Subject of citation	Applies to subpart	Explanation
§ 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 determination	Yes.	
§ 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	No.	
§ 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.	

[75 FR 9688, Mar. 3, 2010, as amended at 78 FR 6720, Jan. 30, 2013]

Appendix A—Protocol for Using an Electrochemical Analyzer to Determine Oxygen and Carbon Monoxide Concentrations From Certain Engines

1.0 SCOPE AND APPLICATION. WHAT IS THIS PROTOCOL?

This protocol is a procedure for using portable electrochemical (EC) cells for measuring carbon monoxide (CO) and oxygen (O_2) concentrations in controlled and uncontrolled emissions from existing stationary 4-stroke lean burn and 4-stroke rich burn reciprocating internal combustion engines as specified in the applicable rule.

1.1 Analytes. What does this protocol determine?

This protocol measures the engine exhaust gas concentrations of carbon monoxide (CO) and oxygen (O_2).

Analyte	**CAS No.**	**Sensitivity**
Carbon monoxide (CO)	630-08-0	Minimum detectable limit should be 2 percent of the nominal range or 1 ppm, whichever is less restrictive.
Oxygen (O_2)	7782-44-7	

1.2 Applicability. When is this protocol acceptable?

This protocol is applicable to 40 CFR part 63, subpart ZZZZ. Because of inherent cross sensitivities of EC cells, you must not apply this protocol to other emissions sources without specific instruction to that effect.

1.3 Data Quality Objectives. How good must my collected data be?

Refer to Section 13 to verify and document acceptable analyzer performance.

1.4 Range. What is the targeted analytical range for this protocol?

The measurement system and EC cell design(s) conforming to this protocol will determine the analytical range for each gas component. The nominal ranges are defined by choosing up-scale calibration gas concentrations near the maximum anticipated flue gas concentrations for CO and O_2 , or no more than twice the permitted CO level.

1.5 Sensitivity. What minimum detectable limit will this protocol yield for a particular gas component?

The minimum detectable limit depends on the nominal range and resolution of the specific EC cell used, and the signal to noise ratio of the measurement system. The minimum detectable limit should be 2 percent of the nominal range or 1 ppm, whichever is less restrictive.

2.0 SUMMARY OF PROTOCOL

In this protocol, a gas sample is extracted from an engine exhaust system and then conveyed to a portable EC analyzer for measurement of CO and O_2 gas concentrations. This method provides measurement system performance specifications and sampling protocols to ensure reliable data. You may use additions to, or modifications of vendor supplied measurement systems (e.g., heated or unheated sample lines, thermocouples, flow meters, selective gas scrubbers, etc.) to meet the design specifications of this protocol. Do not make changes to the measurement system from the as-verified configuration (Section 3.12).

3.0 DEFINITIONS

3.1 Measurement System. The total equipment required for the measurement of CO and O_2 concentrations. The measurement system consists of the following major subsystems:

3.1.1 Data Recorder. A strip chart recorder, computer or digital recorder for logging measurement data from the analyzer output. You may record measurement data from the digital data display manually or electronically.

3.1.2 Electrochemical (EC) Cell. A device, similar to a fuel cell, used to sense the presence of a specific analyte and generate an electrical current output proportional to the analyte concentration.

3.1.3 Interference Gas Scrubber. A device used to remove or neutralize chemical compounds that may interfere with the selective operation of an EC cell.

3.1.4 Moisture Removal System. Any device used to reduce the concentration of moisture in the sample stream so as to protect the EC cells from the damaging effects of condensation and to minimize errors in measurements caused by the scrubbing of soluble gases.

3.1.5 Sample Interface. The portion of the system used for one or more of the following: sample acquisition; sample transport; sample conditioning or protection of the EC cell from any degrading effects of the engine exhaust effluent; removal of particulate matter and condensed moisture.

3.2 Nominal Range. The range of analyte concentrations over which each EC cell is operated (normally 25 percent to 150 percent of up-scale calibration gas value). Several nominal ranges can be used for any given cell so long as the calibration and repeatability checks for that range remain within specifications.

3.3 Calibration Gas. A vendor certified concentration of a specific analyte in an appropriate balance gas.

3.4 Zero Calibration Error. The analyte concentration output exhibited by the EC cell in response to zero-level calibration gas.

3.5 Up-Scale Calibration Error. The mean of the difference between the analyte concentration exhibited by the EC cell and the certified concentration of the up-scale calibration gas.

3.6 Interference Check. A procedure for quantifying analytical interference from components in the engine exhaust gas other than the targeted analytes.

3.7 Repeatability Check. A protocol for demonstrating that an EC cell operated over a given nominal analyte concentration range provides a stable and consistent response and is not significantly affected by repeated exposure to that gas.

3.8 Sample Flow Rate. The flow rate of the gas sample as it passes through the EC cell. In some situations, EC cells can experience drift with changes in flow rate. The flow rate must be monitored and documented during all phases of a sampling run.

3.9 Sampling Run. A timed three-phase event whereby an EC cell's response rises and plateaus in a sample conditioning phase, remains relatively constant during a measurement data phase, then declines during a refresh phase. The sample conditioning phase exposes the EC cell to the gas sample for a length of time sufficient to reach a constant response. The measurement data phase is the time interval during which gas sample measurements can be made that meet the acceptance criteria of this protocol. The refresh phase then purges the EC cells with CO-free air. The refresh phase replenishes requisite O_2 and moisture in the electrolyte reserve and provides a mechanism to de-gas or desorb any interference gas scrubbers or filters so as to enable a stable CO EC cell response. There are four primary types of sampling runs: pre- sampling calibrations; stack gas sampling; post-sampling calibration checks; and measurement system repeatability checks. Stack gas sampling runs can be chained together for extended evaluations, providing all other procedural specifications are met.

3.10 Sampling Day. A time not to exceed twelve hours from the time of the pre-sampling calibration to the post-sampling calibration check. During this time, stack gas sampling runs can be repeated without repeated recalibrations, providing all other sampling specifications have been met.

3.11 Pre-Sampling Calibration/Post-Sampling Calibration Check. The protocols executed at the beginning and end of each sampling day to bracket measurement readings with controlled performance checks.

3.12 Performance-Established Configuration. The EC cell and sampling system configuration that existed at the time that it initially met the performance requirements of this protocol.

4.0 INTERFERENCES.

When present in sufficient concentrations, NO and NO_2 are two gas species that have been reported to interfere with CO concentration measurements. In the likelihood of this occurrence, it is the protocol user's responsibility to employ and properly maintain an appropriate CO EC cell filter or scrubber for removal of these gases, as described in Section 6.2.12.

5.0 SAFETY. [RESERVED]

6.0 EQUIPMENT AND SUPPLIES.

6.1 What equipment do I need for the measurement system?

The system must maintain the gas sample at conditions that will prevent moisture condensation in the sample transport lines, both before and as the sample gas contacts the EC cells. The essential components of the measurement system are described below.

6.2 Measurement System Components.

6.2.1 Sample Probe. A single extraction-point probe constructed of glass, stainless steel or other non-reactive material, and of length sufficient to reach any designated sampling point. The sample probe must be designed to prevent plugging due to condensation or particulate matter.

6.2.2 Sample Line. Non-reactive tubing to transport the effluent from the sample probe to the EC cell.

6.2.3 Calibration Assembly (optional). A three-way valve assembly or equivalent to introduce calibration gases at ambient pressure at the exit end of the sample probe during calibration checks. The assembly must be designed such that only stack gas or calibration gas flows in the sample line and all gases flow through any gas path filters.

6.2.4 Particulate Filter (optional). Filters before the inlet of the EC cell to prevent accumulation of particulate material in the measurement system and extend the useful life of the components. All filters must be fabricated of materials that are non-reactive to the gas mixtures being sampled.

6.2.5 Sample Pump. A leak-free pump to provide undiluted sample gas to the system at a flow rate sufficient to minimize the response time of the measurement system. If located upstream of the EC cells, the pump must be constructed of a material that is non-reactive to the gas mixtures being sampled.

6.2.8 Sample Flow Rate Monitoring. An adjustable rotameter or equivalent device used to adjust and maintain the sample flow rate through the analyzer as prescribed.

6.2.9 Sample Gas Manifold (optional). A manifold to divert a portion of the sample gas stream to the analyzer and the remainder to a by-pass discharge vent. The sample gas manifold may also include provisions for introducing calibration gases directly to the analyzer. The manifold must be constructed of a material that is non-reactive to the gas mixtures being sampled.

6.2.10 EC cell. A device containing one or more EC cells to determine the CO and O_2 concentrations in the sample gas stream. The EC cell(s) must meet the applicable performance specifications of Section 13 of this protocol.

6.2.11 Data Recorder. A strip chart recorder, computer or digital recorder to make a record of analyzer output data. The data recorder resolution (i.e., readability) must be no greater than 1 ppm for CO; 0.1 percent for O_2 ; and one degree (either °C or °F) for temperature. Alternatively, you may use a digital or analog meter having the same resolution to observe and manually record the analyzer responses.

6.2.12 Interference Gas Filter or Scrubber. A device to remove interfering compounds upstream of the CO EC cell. Specific interference gas filters or scrubbers used in the performance-established configuration of the analyzer must continue to be used. Such a filter or scrubber must have a means to determine when the removal agent is exhausted. Periodically replace or replenish it in accordance with the manufacturer's recommendations.

7.0 REAGENTS AND STANDARDS. WHAT CALIBRATION GASES ARE NEEDED?

7.1 Calibration Gases. CO calibration gases for the EC cell must be CO in nitrogen or CO in a mixture of nitrogen and O_2. Use CO calibration gases with labeled concentration values certified by the manufacturer to be within ± 5 percent of the label value. Dry ambient air (20.9 percent O_2) is acceptable for calibration of the O_2 cell. If needed, any lower percentage O_2 calibration gas must be a mixture of O_2 in nitrogen.

7.1.1 Up-Scale CO Calibration Gas Concentration. Choose one or more up-scale gas concentrations such that the average of the stack gas measurements for each stack gas sampling run are between 25 and 150 percent of those concentrations. Alternatively, choose an up-scale gas that does not exceed twice the concentration of the applicable outlet standard. If a measured gas value exceeds 150 percent of the up-scale CO calibration gas value at any time during the stack gas sampling run, the run must be discarded and repeated.

7.1.2 Up-Scale O 2 Calibration Gas Concentration.

Select an O_2 gas concentration such that the difference between the gas concentration and the average stack gas measurement or reading for each sample run is less than 15 percent O_2 . When the average exhaust gas O_2 readings are above 6 percent, you may use dry ambient air (20.9 percent O_2) for the up-scale O_2 calibration gas.

7.1.3 Zero Gas. Use an inert gas that contains less than 0.25 percent of the up-scale CO calibration gas concentration. You may use dry air that is free from ambient CO and other combustion gas products (e.g., CO_2).

8.0 SAMPLE COLLECTION AND ANALYSIS

8.1 Selection of Sampling Sites.

8.1.1 Control Device Inlet. Select a sampling site sufficiently downstream of the engine so that the combustion gases should be well mixed. Use a single sampling extraction point near the center of the duct (e.g., within the 10 percent centroidal area), unless instructed otherwise.

8.1.2 Exhaust Gas Outlet. Select a sampling site located at least two stack diameters downstream of any disturbance (e.g., turbocharger exhaust, crossover junction or recirculation take-off) and at least one-half stack diameter upstream of the gas discharge to the atmosphere. Use a single sampling extraction point near the center of the duct (e.g., within the 10 percent centroidal area), unless instructed otherwise.

8.2 Stack Gas Collection and Analysis. Prior to the first stack gas sampling run, conduct that the pre-sampling calibration in accordance with Section 10.1. Use Figure 1 to record all data. Zero the analyzer with zero gas. Confirm and record that the scrubber media color is correct and not exhausted. Then position the probe at the sampling point and begin the sampling run at the same flow rate used during the up-scale calibration. Record the start time. Record all EC cell output responses and the flow rate during the "sample conditioning phase" once per minute until constant readings are obtained. Then begin the "measurement data phase" and record readings every 15 seconds for at least two minutes (or eight readings), or as otherwise required to achieve two continuous minutes of data that meet the specification given in Section 13.1. Finally, perform the "refresh phase" by introducing dry air, free from CO and other combustion gases, until several minute-to-minute readings of consistent value have been obtained. For each run use the "measurement data phase" readings to calculate the average stack gas CO and O_2 concentrations.

8.3 EC Cell Rate. Maintain the EC cell sample flow rate so that it does not vary by more than ± 10 percent throughout the pre-sampling calibration, stack gas sampling and post-sampling calibration check. Alternatively, the EC cell sample flow rate can be maintained within a tolerance range that does not affect the gas concentration readings by more than ± 3 percent, as instructed by the EC cell manufacturer.

9.0 QUALITY CONTROL (RESERVED)

10.0 CALIBRATION AND STANDARDIZATION

10.1 Pre-Sampling Calibration. Conduct the following protocol once for each nominal range to be used on each EC cell before performing a stack gas sampling run on each field sampling day. Repeat the calibration if you replace an EC cell before completing all of the sampling runs. There is no prescribed order for calibration of the EC cells; however, each cell must complete the measurement data phase during calibration. Assemble the measurement system by following the manufacturer's recommended protocols including for preparing and preconditioning the EC cell. Assure the measurement system has no leaks and verify the gas scrubbing agent is not depleted. Use Figure 1 to record all data.

10.1.1 Zero Calibration. For both the O_2 and CO cells, introduce zero gas to the measurement system (e.g., at the calibration assembly) and record the concentration reading every minute until readings are constant for at least two consecutive minutes. Include the time and sample flow rate. Repeat the steps in this section at least once to verify the zero calibration for each component gas.

10.1.2 Zero Calibration Tolerance. For each zero gas introduction, the zero level output must be less than or equal to ± 3 percent of the up-scale gas value or ± 1 ppm, whichever is less restrictive, for the CO channel and less than or equal to ± 0.3 percent O_2 for the O_2 channel.

10.1.3 Up-Scale Calibration. Individually introduce each calibration gas to the measurement system (e.g., at the calibration assembly) and record the start time. Record all EC cell output responses and the flow rate during this "sample conditioning phase" once per minute until readings are constant for at least two minutes. Then begin the "measurement data phase" and record readings every 15 seconds for a total of two minutes, or as otherwise required. Finally, perform the "refresh phase" by introducing dry air, free from CO and other combustion gases, until readings are constant for at least two consecutive minutes. Then repeat the steps in this section at least once to verify the calibration for each component gas. Introduce all gases to flow through the entire sample handling system (i.e., at the exit end of the sampling probe or the calibration assembly).

10.1.4 Up-Scale Calibration Error. The mean of the difference of the “measurement data phase” readings from the reported standard gas value must be less than or equal to ± 5 percent or ± 1 ppm for CO or ± 0.5 percent O_2 , whichever is less restrictive, respectively. The maximum allowable deviation from the mean measured value of any single “measurement data phase” reading must be less than or equal to ± 2 percent or ± 1 ppm for CO or ± 0.5 percent O_2 , whichever is less restrictive, respectively.

10.2 Post-Sampling Calibration Check. Conduct a stack gas post-sampling calibration check after the stack gas sampling run or set of runs and within 12 hours of the initial calibration. Conduct up-scale and zero calibration checks using the protocol in Section 10.1. Make no changes to the sampling system or EC cell calibration until all post-sampling calibration checks have been recorded. If either the zero or up-scale calibration error exceeds the respective specification in Sections 10.1.2 and 10.1.4 then all measurement data collected since the previous successful calibrations are invalid and re-calibration and re-sampling are required. If the sampling system is disassembled or the EC cell calibration is adjusted, repeat the calibration check before conducting the next analyzer sampling run.

11.0 Analytical Procedure

The analytical procedure is fully discussed in Section 8.

12.0 Calculations and Data Analysis

Determine the CO and O_2 concentrations for each stack gas sampling run by calculating the mean gas concentrations of the data recorded during the “measurement data phase”.

13.0 Protocol Performance

Use the following protocols to verify consistent analyzer performance during each field sampling day.

13.1 Measurement Data Phase Performance Check. Calculate the mean of the readings from the “measurement data phase”. The maximum allowable deviation from the mean for each of the individual readings is ± 2 percent, or ± 1 ppm, whichever is less restrictive. Record the mean value and maximum deviation for each gas monitored. Data must conform to Section 10.1.4. The EC cell flow rate must conform to the specification in Section 8.3.

Example: A measurement data phase is invalid if the maximum deviation of any single reading comprising that mean is greater than ± 2 percent *or ± 1 ppm (the default criteria). For example, if the mean = 30 ppm, single readings of below 29 ppm and above 31 ppm are disallowed*).

13.2 Interference Check. Before the initial use of the EC cell and interference gas scrubber in the field, and semi-annually thereafter, challenge the interference gas scrubber with NO and NO_2 gas standards that are generally recognized as representative of diesel-fueled engine NO and NO_2 emission values. Record the responses displayed by the CO EC cell and other pertinent data on Figure 1 or a similar form.

13.2.1 Interference Response. The combined NO and NO_2 interference response should be less than or equal to ± 5 percent of the up-scale CO calibration gas concentration.

13.3 Repeatability Check. Conduct the following check once for each nominal range that is to be used on the CO EC cell within 5 days prior to each field sampling program. If a field sampling program lasts longer than 5 days, repeat this check every 5 days. Immediately repeat the check if the EC cell is replaced or if the EC cell is exposed to gas concentrations greater than 150 percent of the highest up-scale gas concentration.

13.3.1 Repeatability Check Procedure. Perform a complete EC cell sampling run (all three phases) by introducing the CO calibration gas to the measurement system and record the response. Follow Section 10.1.3. Use Figure 1 to record all data. Repeat the run three times for a total of four complete runs.

During the four repeatability check runs, do not adjust the system except where necessary to achieve the correct calibration gas flow rate at the analyzer.

13.3.2 Repeatability Check Calculations. Determine the highest and lowest average “measurement data phase” CO concentrations from the four repeatability check runs and record the results on Figure 1 or a similar form. The absolute value of the difference between the maximum and minimum average values recorded must not vary more than ± 3 percent or ± 1 ppm of the up-scale gas value, whichever is less restrictive.

15.0 WASTE MANAGEMENT (RESERVED)

16.0 ALTERNATIVE PROCEDURES (RESERVED)

17.0 REFERENCES

(1) “Development of an Electrochemical Cell Emission Analyzer Test Protocol”, Topical Report, Phil Juneau, Emission Monitoring, Inc., July 1997.

(2) “Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Emissions from Natural Gas-Fired Engines, Boilers, and Process Heaters Using Portable Analyzers”, EMC Conditional Test Protocol 30 (CTM-30), Gas Research Institute Protocol GRI-96/0008, Revision 7, October 13, 1997.

(3) “ICAC Test Protocol for Periodic Monitoring”, EMC Conditional Test Protocol 34 (CTM-034), The Institute of Clean Air Companies, September 8, 1999.

(4) “Code of Federal Regulations”, Protection of Environment, 40 CFR, Part 60, Appendix A, Methods 1-4; 10.

TABLE 1: APPENDIX A—SAMPLING RUN DATA.

Facility__________ Engine I.D.__________ Date______				
Run Type:	(_)	(_)	(_)	(_)
(X)	Pre-Sample Calibration	Stack Gas Sample	Post-Sample Cal. Check	Repeatability Check

Run #	1	1	2	2	3	3	4	4	Time	Scrub. OK	Flow- Rate
Gas	O_2	CO	O_2	CO	O_2	CO	O_2	CO			
Sample Cond. Phase											
″											
″											
″											
″											
Measurement Data Phase											
″											
″											
″											
″											
″											
″											
″											
″											
″											
″											
Mean											
Refresh Phase											
″											
″											
″											
″											

[78 FR 6721, Jan. 30, 2013]

Attachment D
To Part 70 Operating Permit Renewal No. 071-30358-00015

Title 40: Protection of Environment

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES (CONTINUED)

Subpart HHHHHH—National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources

SOURCE: 73 FR 1759, Jan. 9, 2008, unless otherwise noted.

What This Subpart Covers

§ 63.11169 What is the purpose of this subpart?

Except as provided in paragraph (d) of this section, this subpart establishes national emission standards for hazardous air pollutants (HAP) for area sources involved in any of the activities in paragraphs (a) through (c) of this section. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission standards contained herein.

(a) Paint stripping operations that involve the use of chemical strippers that contain methylene chloride (MeCl), Chemical Abstract Service number 75092, in paint removal processes;

(b) Autobody refinishing operations that encompass motor vehicle and mobile equipment spray-applied surface coating operations;

(c) Spray application of coatings containing compounds of chromium (Cr), lead (Pb), manganese (Mn), nickel (Ni), or cadmium (Cd), collectively referred to as the target HAP to any part or product made of metal or plastic, or combinations of metal and plastic that are not motor vehicles or mobile equipment.

(d) This subpart does not apply to any of the activities described in paragraph (d)(1) through (6) of this section.

(1) Surface coating or paint stripping performed on site at installations owned or operated by the Armed Forces of the United States (including the Coast Guard and the National Guard of any such State), the National Aeronautics and Space Administration, or the National Nuclear Security Administration.

(2) Surface coating or paint stripping of military munitions, as defined in § 63.11180, manufactured by or for the Armed Forces of the United States (including the Coast Guard and the National Guard of any such State) or equipment directly and exclusively used for the purposes of transporting military munitions.

(3) Surface coating or paint stripping performed by individuals on their personal vehicles, possessions, or property, either as a hobby or for maintenance of their personal vehicles, possessions, or property. This subpart also does not apply when these operations are performed by individuals for others without compensation. An individual who spray applies surface coating to more than two motor vehicles or pieces of mobile equipment per year is subject to the requirements in this subpart that pertain to motor vehicle and mobile equipment surface coating regardless of whether compensation is received.

(4) Surface coating or paint stripping that meets the definition of “research and laboratory activities” in § 63.11180.

(5) Surface coating or paint stripping that meets the definition of “quality control activities” in § 63.11180.

(6) Surface coating or paint stripping activities that are covered under another area source NESHAP.

§ 63.11170 Am I subject to this subpart?

(a) You are subject to this subpart if you operate an area source of HAP as defined in paragraph (b) of this section, including sources that are part of a tribal, local, State, or Federal facility and you perform one or more of the activities in paragraphs (a)(1) through (3) of this section:

(1) Perform paint stripping using MeCl for the removal of dried paint (including, but not limited to, paint, enamel, varnish, shellac, and lacquer) from wood, metal, plastic, and other substrates.

(2) Perform spray application of coatings, as defined in § 63.11180, to motor vehicles and mobile equipment including operations that are located in stationary structures at fixed locations, and mobile repair and refinishing operations that travel to the customer's location, except spray coating applications that meet the definition of facility maintenance in § 63.11180. However, if you are the owner or operator of a motor vehicle or mobile equipment surface coating operation, you may petition the Administrator for an exemption from this subpart if you can demonstrate, to the satisfaction of the Administrator, that you spray apply no coatings that contain the target HAP, as defined in § 63.11180. Petitions must include a description of the coatings that you spray apply and your certification that you do not spray apply any coatings containing the target HAP. If circumstances change such that you intend to spray apply coatings containing the target HAP, you must submit the initial notification required by 63.11175 and comply with the requirements of this subpart.

(3) Perform spray application of coatings that contain the target HAP, as defined in § 63.11180, to a plastic and/or metal substrate on a part or product, except spray coating applications that meet the definition of facility maintenance or space vehicle in § 63.11180.

(b) An area source of HAP is a source of HAP that is not a major source of HAP, is not located at a major source, and is not part of a major source of HAP emissions. A major source of HAP emissions is any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit any single HAP at a rate of 9.07 megagrams (Mg) (10 tons) or more per year, or emit any combination of HAP at a rate of 22.68 Mg (25 tons) or more per year.

§ 63.11171 How do I know if my source is considered a new source or an existing source?

(a) This subpart applies to each new and existing affected area source engaged in the activities listed in § 63.11170, with the exception of those activities listed in § 63.11169(d) of this subpart.

(b) The affected source is the collection of all of the items listed in paragraphs (b)(1) through (6) of this section. Not all affected sources will have all of the items listed in paragraphs (b)(1) through (6) of this section.

(1) Mixing rooms and equipment;

(2) Spray booths, ventilated prep stations, curing ovens, and associated equipment;

(3) Spray guns and associated equipment;

(4) Spray gun cleaning equipment;

(5) Equipment used for storage, handling, recovery, or recycling of cleaning solvent or waste paint; and

(6) Equipment used for paint stripping at paint stripping facilities using paint strippers containing MeCl.

(c) An affected source is a new source if it meets the criteria in paragraphs (c)(1) and (c)(2) of this section.

(1) You commenced the construction of the source after September 17, 2007 by installing new paint stripping or surface coating equipment. If you purchase and install spray booths, enclosed spray gun cleaners, paint stripping equipment to reduce MeCl emissions, or purchase new spray guns to comply with this subpart at an existing source, these actions would not make your existing source a new source.

(2) The new paint stripping or surface coating equipment is used at a source that was not actively engaged in paint stripping and/or miscellaneous surface coating prior to September 17, 2007.

(d) An affected source is reconstructed if it meets the definition of reconstruction in § 63.2.

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

General Compliance Requirements

§ 63.11172 When do I have to comply with this subpart?

The date by which you must comply with this subpart is called the compliance date. The compliance date for each type of affected source is specified in paragraphs (a) and (b) of this section.

(a) For a new or reconstructed affected source, the compliance date is the applicable date in paragraph (a)(1) or (2) of this section:

(1) If the initial startup of your new or reconstructed affected source is after September 17, 2007, the compliance date is January 9, 2008.

(2) If the initial startup of your new or reconstructed affected source occurs after January 9, 2008, the compliance date is the date of initial startup of your affected source.

(b) For an existing affected source, the compliance date is January 10, 2011.

§ 63.11173 What are my general requirements for complying with this subpart?

(a) Each paint stripping operation that is an affected area source must implement management practices to minimize the evaporative emissions of MeCl. The management practices must address, at a minimum, the practices in paragraphs (a)(1) through (5) of this section, as applicable, for your operations.

(1) Evaluate each application to ensure there is a need for paint stripping (e.g., evaluate whether it is possible to re-coat the piece without removing the existing coating).

(2) Evaluate each application where a paint stripper containing MeCl is used to ensure that there is no alternative paint stripping technology that can be used.

(3) Reduce exposure of all paint strippers containing MeCl to the air.

(4) Optimize application conditions when using paint strippers containing MeCl to reduce MeCl evaporation (e.g., if the stripper must be heated, make sure that the temperature is kept as low as possible to reduce evaporation).

(5) Practice proper storage and disposal of paint strippers containing MeCl (e.g., store stripper in closed, air-tight containers).

(b) Each paint stripping operation that has annual usage of more than one ton of MeCl must develop and implement a written MeCl minimization plan to minimize the use and emissions of MeCl. The MeCl minimization plan must address, at a minimum, the management practices specified in paragraphs (a)(1) through (5) of this section, as applicable, for your operations. Each operation must post a placard or sign outlining the MeCl minimization plan in each area where paint stripping operations subject to this subpart occur. Paint stripping operations with annual usage of less than one ton of MeCl, must comply with the requirements in paragraphs (a)(1) through (5) of this section, as applicable, but are not required to develop and implement a written MeCl minimization plan.

(c) Each paint stripping operation must maintain copies of annual usage of paint strippers containing MeCl on site at all times.

(d) Each paint stripping operation with annual usage of more than one ton of MeCl must maintain a copy of their current MeCl minimization plan on site at all times.

(e) Each motor vehicle and mobile equipment surface coating operation and each miscellaneous surface coating operation must meet the requirements in paragraphs (e)(1) through (e)(5) of this section.

(1) All painters must be certified that they have completed training in the proper spray application of surface coatings and the proper setup and maintenance of spray equipment. The minimum requirements for training and certification are described in paragraph (f) of this section. The spray application of surface coatings is prohibited by persons who are not certified as having completed the training described in paragraph (f) of this section. The requirements of this paragraph do not apply to the students of an accredited surface coating training program who are under the direct supervision of an instructor who meets the requirements of this paragraph.

(2) All spray-applied coatings must be applied in a spray booth, preparation station, or mobile enclosure that meets the requirements of paragraph (e)(2)(i) of this section and either paragraph (e)(2)(ii), (e)(2)(iii), or (e)(2)(iv) of this section.

(i) All spray booths, preparation stations, and mobile enclosures must be fitted with a type of filter technology that is demonstrated to achieve at least 98-percent capture of paint overspray. The procedure used to demonstrate filter efficiency must be consistent with the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) Method 52.1, “Gravimetric and Dust-Spot Procedures for Testing Air-Cleaning Devices Used in General Ventilation for Removing Particulate Matter, June 4, 1992” (incorporated by reference, see § 63.14 of subpart A of this part). The test coating for measuring filter efficiency shall be a high solids bake enamel delivered at a rate of at least 135 grams per minute from a conventional (non-HVLP) air-atomized spray gun operating at 40 pounds per square inch (psi) air pressure; the air flow rate across the filter shall be 150 feet per minute. Owners and operators may use published filter efficiency data provided by filter vendors to demonstrate compliance with this requirement and are not required to perform this measurement. The requirements of this paragraph do not apply to waterwash spray booths that are operated and maintained according to the manufacturer's specifications.

(ii) Spray booths and preparation stations used to refinish complete motor vehicles or mobile equipment must be fully enclosed with a full roof, and four complete walls or complete side curtains, and must be ventilated at negative pressure so that air is drawn into any openings in the booth walls or preparation station curtains. However, if a spray booth is fully enclosed and has seals on all doors and other openings and has an automatic pressure balancing system, it may be operated at up to, but not more than, 0.05 inches water gauge positive pressure.

(iii) Spray booths and preparation stations that are used to coat miscellaneous parts and products or vehicle subassemblies must have a full roof, at least three complete walls or complete side curtains, and must be ventilated so that air is drawn into the booth. The walls and roof of a booth may have openings, if needed, to allow for conveyors and parts to pass through the booth during the coating process.

(iv) Mobile ventilated enclosures that are used to perform spot repairs must enclose and, if necessary, seal against the surface around the area being coated such that paint overspray is retained within the enclosure and directed to a filter to capture paint overspray.

(3) All spray-applied coatings must be applied with a high volume, low pressure (HVLP) spray gun, electrostatic application, airless spray gun, air-assisted airless spray gun, or an equivalent technology that is demonstrated by the spray gun manufacturer to achieve transfer efficiency comparable to one of the spray gun technologies listed above for a comparable operation, and for which written approval has been obtained from the Administrator. The procedure used to demonstrate that spray gun transfer efficiency is equivalent to that of an HVLP spray gun must be equivalent to the California South Coast Air Quality Management District's “Spray Equipment Transfer Efficiency Test Procedure for Equipment User, May 24, 1989” and “Guidelines for Demonstrating Equivalency with District Approved Transfer Efficient Spray Guns, September 26, 2002” (incorporated by reference, see § 63.14 of subpart A of this part). The requirements of this paragraph do not apply to painting performed by students and instructors at paint training centers. The requirements of this paragraph do not apply to the surface coating of aerospace vehicles that involves the coating of components that normally require the use of an airbrush or an extension on the spray gun to properly reach limited access spaces; to the application of coatings on aerospace vehicles that contain fillers that adversely affect atomization with HVLP spray guns; or to the application of coatings on aerospace vehicles that normally have a dried film thickness of less than 0.0013 centimeter (0.0005 in.).

(4) All paint spray gun cleaning must be done so that an atomized mist or spray of gun cleaning solvent and paint residue is not created outside of a container that collects used gun cleaning solvent. Spray gun cleaning may be done with, for example, hand cleaning of parts of the disassembled gun in a container of solvent, by flushing solvent through the gun without atomizing the solvent and paint residue, or by using a fully enclosed spray gun washer. A combination of non-atomizing methods may also be used.

(5) As provided in § 63.6(g), we, the U.S. Environmental Protection Agency, may choose to grant you permission to use an alternative to the emission standards in this section after you have requested approval to do so according to § 63.6(g)(2).

(f) Each owner or operator of an affected miscellaneous surface coating source must ensure and certify that all new and existing personnel, including contract personnel, who spray apply surface coatings, as defined in § 63.11180, are trained in the proper application of surface coatings as required by paragraph (e)(1) of this section. The training program must include, at a minimum, the items listed in paragraphs (f)(1) through (f)(3) of this section.

(1) A list of all current personnel by name and job description who are required to be trained;

(2) Hands-on and classroom instruction that addresses, at a minimum, initial and refresher training in the topics listed in paragraphs (f)(2)(i) through (2)(iv) of this section.

(i) Spray gun equipment selection, set up, and operation, including measuring coating viscosity, selecting the proper fluid tip or nozzle, and achieving the proper spray pattern, air pressure and volume, and fluid delivery rate.

(ii) Spray technique for different types of coatings to improve transfer efficiency and minimize coating usage and overspray, including maintaining the correct spray gun distance and angle to the part, using proper banding and overlap, and reducing lead and lag spraying at the beginning and end of each stroke.

(iii) Routine spray booth and filter maintenance, including filter selection and installation.

(iv) Environmental compliance with the requirements of this subpart.

(3) A description of the methods to be used at the completion of initial or refresher training to demonstrate, document, and provide certification of successful completion of the required training. Owners and operators who can show by documentation or certification that a painter's work experience and/or training has resulted in training equivalent to the training required in paragraph (f)(2) of this section are not required to provide the initial training required by that paragraph to these painters.

(g) As required by paragraph (e)(1) of this section, all new and existing personnel at an affected motor vehicle and mobile equipment or miscellaneous surface coating source, including contract personnel, who spray apply surface coatings, as defined in § 63.11180, must be trained by the dates specified in paragraphs (g)(1) and (2) of this section. Employees who transfer within a company to a position as a painter are subject to the same requirements as a new hire.

(1) If your source is a new source, all personnel must be trained and certified no later than 180 days after hiring or no later than July 7, 2008, whichever is later. Painter training that was completed within five years prior to the date training is required, and that meets the requirements specified in paragraph (f)(2) of this section satisfies this requirement and is valid for a period not to exceed five years after the date the training is completed.

(2) If your source is an existing source, all personnel must be trained and certified no later than 180 days after hiring or no later than January 10, 2011, whichever is later. Painter training that was completed within five years prior to the date training is required, and that meets the requirements specified in paragraph (f)(2) of this section satisfies this requirement and is valid for a period not to exceed five years after the date the training is completed.

(3) Training and certification will be valid for a period not to exceed five years after the date the training is completed, and all personnel must receive refresher training that meets the requirements of this section and be re-certified every five years.

[73 FR 1760, Jan. 9, 2008; 73 FR 8408, Feb. 13, 2008]

§ 63.11174 What parts of the General Provisions apply to me?

(a) Table 1 of this subpart shows which parts of the General Provisions in subpart A apply to you.

(b) 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 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 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.

Notifications, Reports, and Records

§ 63.11175 What notifications must I submit?

(a) Initial Notification. If you are the owner or operator of a paint stripping operation using paint strippers containing MeCl and/or a surface coating operation subject to this subpart, you must submit the initial notification required by § 63.9(b). For a new affected source, you must submit the Initial Notification no later than 180 days after initial startup or July 7, 2008, whichever is later. For an existing affected source, you must submit the initial notification no later than January 11, 2010. The initial notification must provide the information specified in paragraphs (a)(1) through (8) of this section.

(1) The company name, if applicable.

(2) The name, title, street address, telephone number, e-mail address (if available), and signature of the owner and operator, or other certifying company official;

(3) The street address (physical location) of the affected source and the street address where compliance records are maintained, if different. If the source is a motor vehicle or mobile equipment surface coating operation that repairs vehicles at the customer's location, rather than at a fixed location, such as a collision repair shop, the notification should state this and indicate the physical location where records are kept to demonstrate compliance;

(4) An identification of the relevant standard (i.e., this subpart, 40 CFR part 63, subpart HHHHHH);

(5) A brief description of the type of operation as specified in paragraph (a)(5)(i) or (ii) of this section.

(i) For all surface coating operations, indicate whether the source is a motor vehicle and mobile equipment surface coating operation or a miscellaneous surface coating operation, and include the number of spray booths and preparation stations, and the number of painters usually employed at the operation.

(ii) For paint stripping operations, identify the method(s) of paint stripping employed (e.g., chemical, mechanical) and the substrates stripped (e.g., wood, plastic, metal).

(6) Each paint stripping operation must indicate whether they plan to annually use more than one ton of MeCl after the compliance date.

(7) A statement of whether the source is already in compliance with each of the relevant requirements of this subpart, or whether the source will be brought into compliance by the compliance date. For paint stripping operations, the relevant requirements that you must evaluate in making this determination are specified in § 63.11173(a) through (d) of this subpart. For surface coating operations, the relevant requirements are specified in § 63.11173(e) through (g) of this subpart.

(8) If your source is a new source, you must certify in the initial notification whether the source is in compliance with each of the requirements of this subpart. If your source is an existing source, you may certify in the initial notification that the source is already in compliance. If you are certifying in the initial notification that the source is in compliance with the relevant requirements of this subpart, then include also a statement by a responsible official with that official's name, title, phone number, e-mail address (if available) and signature, certifying the truth, accuracy, and completeness of the notification, a statement that the source has complied with all the relevant standards of this subpart, and that this initial notification also serves as the notification of compliance status.

(b) Notification of Compliance Status. If you are the owner or operator of a new source, you are not required to submit a separate notification of compliance status in addition to the initial notification specified in paragraph (a) of this subpart provided you were able to certify compliance on the date of the initial notification, as part of the initial notification, and your compliance status has not since changed. If you are the owner or operator of any existing source and did not certify in the initial notification that your source is already in compliance as specified in paragraph (a) of this section, then you must submit a notification of compliance status. You must submit a Notification of Compliance Status on or before March 11, 2011. You are required to submit the information specified in paragraphs (b)(1) through (4) of this section with your Notification of Compliance Status:

(1) Your company's name and the street address (physical location) of the affected source and the street address where compliance records are maintained, if different.

(2) The name, title, address, telephone, e-mail address (if available) and signature of the owner and operator, or other certifying company official, certifying the truth, accuracy, and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of this subpart or an explanation of any noncompliance and a description of corrective actions being taken to achieve compliance. For paint stripping operations, the relevant requirements that you must evaluate in making this determination are specified in § 63.11173(a) through (d). For surface coating operations, the relevant requirements are specified in § 63.11173(e) through (g).

(3) The date of the Notification of Compliance Status.

(4) If you are the owner or operator of an existing affected paint stripping source that annually uses more than one ton of MeCl, you must submit a statement certifying that you have developed and are implementing a written MeCl minimization plan in accordance with § 63.11173(b).

§ 63.11176 What reports must I submit?

(a) Annual Notification of Changes Report. If you are the owner or operator of a paint stripping, motor vehicle or mobile equipment, or miscellaneous surface coating affected source, you are required to submit a report in each calendar year in which information previously submitted in either the initial notification required by § 63.11175(a), Notification of Compliance, or a previous annual notification of changes report submitted under this paragraph, has changed. Deviations from the relevant requirements in § 63.11173(a) through (d) or § 63.11173(e) through (g) on the date of the report will be deemed to be a change. This includes notification when paint stripping affected sources that have not developed and implemented a written MeCl minimization plan in accordance with § 63.11173(b) used more than one ton of MeCl in the previous calendar year. The annual notification of changes report must be submitted prior to March 1 of each calendar year when reportable changes have occurred and must include the information specified in paragraphs (a)(1) through (2) of this section.

(1) Your company's name and the street address (physical location) of the affected source and the street address where compliance records are maintained, if different.

(2) The name, title, address, telephone, e-mail address (if available) and signature of the owner and operator, or other certifying company official, certifying the truth, accuracy, and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of this subpart or an explanation of any noncompliance and a description of corrective actions being taken to achieve compliance.

(b) If you are the owner or operator of a paint stripping affected source that has not developed and implemented a written MeCl minimization plan in accordance with § 63.11173(b) of this subpart, you must submit a report for any calendar year in which you use more than one ton of MeCl. This report must be submitted no later than March 1 of the following calendar year. You must also develop and implement a written MeCl minimization plan in accordance with § 63.11173(b) no later than December 31. You must then submit a Notification of Compliance Status report containing the information specified in § 63.11175(b) by March 1 of the following year and comply with the requirements for paint stripping operations that annually use more than one ton of MeCl in §§ 63.11173(d) and 63.11177(f).

§ 63.11177 What records must I keep?

If you are the owner or operator of a surface coating operation, you must keep the records specified in paragraphs (a) through (d) and (g) of this section. If you are the owner or operator of a paint stripping operation, you must keep the records specified in paragraphs (e) through (g) of this section, as applicable.

(a) Certification that each painter has completed the training specified in § 63.11173(f) with the date the initial training and the most recent refresher training was completed.

(b) Documentation of the filter efficiency of any spray booth exhaust filter material, according to the procedure in § 63.11173(e)(3)(i).

(c) Documentation from the spray gun manufacturer that each spray gun with a cup capacity equal to or greater than 3.0 fluid ounces (89 cc) that does not meet the definition of an HVLP spray gun, electrostatic application, airless spray gun, or air assisted airless spray gun, has been determined by the Administrator to achieve a transfer efficiency equivalent to that of an HVLP spray gun, according to the procedure in § 63.11173(e)(4).

(d) Copies of any notification submitted as required by § 63.11175 and copies of any report submitted as required by § 63.11176.

(e) Records of paint strippers containing MeCl used for paint stripping operations, including the MeCl content of the paint stripper used. Documentation needs to be sufficient to verify annual usage of paint strippers containing MeCl (e.g., material safety data sheets or other documentation provided by the manufacturer or supplier of the paint stripper, purchase receipts, records of paint stripper usage, engineering calculations).

(f) If you are a paint stripping source that annually uses more than one ton of MeCl you are required to maintain a record of your current MeCl minimization plan on site for the duration of your paint stripping operations. You must also keep records of your annual review of, and updates to, your MeCl minimization plan.

(g) Records of any deviation from the requirements in § 63.11173, § 63.11174, § 63.11175, or § 63.11176. These records must include the date and time period of the deviation, and a description of the nature of the deviation and the actions taken to correct the deviation.

(h) Records of any assessments of source compliance performed in support of the initial notification, notification of compliance status, or annual notification of changes report.

§ 63.11178 In what form and for how long must I keep my records?

(a) If you are the owner or operator of an affected source, you must maintain copies of the records specified in § 63.11177 for a period of at least five years after the date of each record. Copies of records must be kept on site and in a printed or electronic form that is readily accessible for inspection for at least the first two years after their date, and may be kept off-site after that two year period.

Other Requirements and Information

§ 63.11179 Who implements and enforces this subpart?

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

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

(c) The authority in § 63.11173(e)(5) will not be delegated to State, local, or tribal agencies.

§ 63.11180 What definitions do I need to know?

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

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

Administrator means, for the purposes of this rulemaking, the Administrator of the U.S. Environmental Protection Agency or the State or local agency that is granted delegation for implementation of this subpart.

Aerospace vehicle or component means any fabricated part, processed part, assembly of parts, or completed unit, with the exception of electronic components, of any aircraft including but not limited to airplanes, helicopters, missiles, rockets, and space vehicles.

Airless and air-assisted airless spray mean any paint spray technology that relies solely on the fluid pressure of the paint to create an atomized paint spray pattern and does not apply any atomizing compressed air to the paint before it leaves the paint nozzle. Air-assisted airless spray uses compressed air to shape and distribute the fan of atomized paint, but still uses fluid pressure to create the atomized paint.

Appurtenance means any accessory to a stationary structure coated at the site of installation, whether installed or detached, including but not limited to: bathroom and kitchen fixtures; cabinets; concrete forms; doors; elevators; fences; hand railings; heating equipment, air conditioning equipment, and other fixed mechanical equipment or stationary tools; lamp posts; partitions; pipes and piping systems; rain gutters and downspouts; stairways, fixed ladders, catwalks, and fire escapes; and window screens.

Architectural coating means a coating to be applied to stationary structures or their appurtenances at the site of installation, to portable buildings at the site of installation, to pavements, or to curbs.

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

Coating means, for the purposes of this subpart, a material spray-applied to a substrate for decorative, protective, or functional purposes. For the purposes of this subpart, coating does not include the following materials:

(1) Decorative, protective, or functional materials that consist only of protective oils for metal, acids, bases, or any combination of these substances.

(2) Paper film or plastic film that may be pre-coated with an adhesive by the film manufacturer.

(3) Adhesives, sealants, maskants, or caulking materials.

(4) Temporary protective coatings, lubricants, or surface preparation materials.

(5) In-mold coatings that are spray-applied in the manufacture of reinforced plastic composite parts.

Compliance date means the date by which you must comply with this subpart.

Deviation means any instance in which an affected source, subject to this subpart, or an owner or operator of such a source fails to meet any requirement or obligation established by this subpart.

Dry media blasting means abrasive blasting using dry media. Dry media blasting relies on impact and abrasion to remove paint from a substrate. Typically, a compressed air stream is used to propel the media against the coated surface.

Electrostatic application means any method of coating application where an electrostatic attraction is created between the part to be coated and the atomized paint particles.

Equipment cleaning means the use of an organic solvent to remove coating residue from the surfaces of paint spray guns and other painting related equipment, including, but not limited to stir sticks, paint cups, brushes, and spray booths.

Facility maintenance means, for the purposes of this subpart, surface coating performed as part of the routine repair or renovation of the tools, equipment, machinery, and structures that comprise the infrastructure of the affected facility and that are necessary for the facility to function in its intended capacity. *Facility maintenance* also includes surface coating associated with the installation of new equipment or structures, and the application of any surface coating as part of janitorial activities. *Facility maintenance* includes the application of coatings to stationary structures or their appurtenances at the site of installation, to portable buildings at the site of installation, to pavements, or to curbs. *Facility maintenance* also includes the refinishing of mobile equipment in the field or at the site where they are used in service and at which they are intended to remain indefinitely after refinishing. Such mobile equipment includes, but is not limited to, farm equipment and mining equipment for which it is not practical or feasible to move to a dedicated mobile equipment refinishing facility. Such mobile equipment also includes items, such as fork trucks, that are used in a manufacturing facility and which are refinished in that same facility. *Facility maintenance* does not include surface coating of motor vehicles, mobile equipment, or items that routinely leave and return to the facility, such as delivery trucks, rental equipment, or containers used to transport, deliver, distribute, or dispense commercial products to customers, such as compressed gas canisters.

High-volume, low-pressure (HVLP) spray equipment means spray equipment that is permanently labeled as such and used to apply any coating by means of a spray gun which is designed and operated between 0.1 and 10 pounds per square inch gauge (psig) air atomizing pressure measured dynamically at the center of the air cap and at the air horns.

Initial startup means the first time equipment is brought online in a paint stripping or surface coating operation, and paint stripping or surface coating is first performed.

Materials that contain HAP or *HAP-containing materials* mean, for the purposes of this subpart, materials that contain 0.1 percent or more by mass of any individual HAP that is an OSHA-defined carcinogen as specified in 29 CFR 1910.1200(d)(4), or 1.0 percent or more by mass for any other individual HAP.

Military munitions means all ammunition products and components produced or used by or for the U.S. Department of Defense (DoD) or for the U.S. Armed Services for national defense and security, including military munitions under the control of the Department of Defense, the U.S. Coast Guard, the National Nuclear Security Administration (NNSA), U.S. Department of Energy (DOE), and National Guard personnel. The term military munitions includes: confined gaseous, liquid, and solid propellants, explosives, pyrotechnics, chemical and riot control agents, smokes, and incendiaries used by DoD components, including bulk explosives and chemical warfare agents, chemical munitions, biological weapons, rockets, guided and ballistic missiles, bombs, warheads, mortar rounds, artillery ammunition, small arms ammunition, grenades, mines, torpedoes, depth charges, cluster munitions and dispensers, demolition charges, nonnuclear components of nuclear weapons, wholly inert ammunition products, and all devices and components of any items listed in this definition.

Miscellaneous parts and/or products means any part or product made of metal or plastic, or combinations of metal and plastic. Miscellaneous parts and/or products include, but are not limited to, metal and plastic components of the following types of products as well as the products themselves: motor vehicle parts and accessories for automobiles, trucks, recreational vehicles; automobiles and light duty trucks at automobile and light duty truck assembly plants; boats; sporting and recreational goods; toys; business machines; laboratory and medical equipment; and household and other consumer products.

Miscellaneous surface coating operation means the collection of equipment used to apply surface coating to miscellaneous parts and/or products made of metal or plastic, including applying cleaning solvents to prepare the surface before coating application, mixing coatings before application, applying coating to a surface, drying or curing the coating after application, and cleaning coating application equipment, but not plating. A single surface coating operation may include any combination of these types of equipment, but always includes at least the point at which a coating material is applied to a given part. A surface coating operation includes all other steps (such as surface preparation with solvent and equipment cleaning) in the affected source where HAP are emitted from the coating of a part. The use of solvent to clean parts (for example, to remove grease during a mechanical repair) does not constitute a miscellaneous surface coating operation if no coatings are applied. A single affected source may have multiple surface coating operations. Surface coatings applied to wood, leather, rubber, ceramics, stone, masonry, or substrates other than metal and plastic are not considered miscellaneous surface coating operations for the purposes of this subpart.

Mobile equipment means any device that may be drawn and/or driven on a roadway including, but not limited to, heavy-duty trucks, truck trailers, fleet delivery trucks, buses, mobile cranes, bulldozers, street cleaners, agriculture equipment, motor homes, and other recreational vehicles (including camping trailers and fifth wheels).

Motor vehicle means any self-propelled vehicle, including, but not limited to, automobiles, light duty trucks, golf carts, vans, and motorcycles.

Motor vehicle and mobile equipment surface coating means the spray application of coatings to assembled motor vehicles or mobile equipment. For the purposes of this subpart, it does not include the surface coating of motor vehicle or mobile equipment parts or subassemblies at a vehicle assembly plant or parts manufacturing plant.

Non-HAP solvent means, for the purposes of this subpart, a solvent (including thinners and cleaning solvents) that contains less than 0.1 percent by mass of any individual HAP that is an OSHA-defined carcinogen as specified in 29 CFR 1910.1200(d)(4) and less than 1.0 percent by mass for any other individual HAP.

Paint stripping and/or miscellaneous surface coating source or facility means any shop, business, location, or parcel of land where paint stripping or miscellaneous surface coating operations are conducted.

Paint stripping means the removal of dried coatings from wood, metal, plastic, and other substrates. A single affected source may have multiple paint stripping operations.

Painter means any person who spray applies coating.

Plastic refers to substrates containing one or more resins and may be solid, porous, flexible, or rigid. Plastics include fiber reinforced plastic composites.

Protective oil means organic material that is applied to metal for the purpose of providing lubrication or protection from corrosion without forming a solid film. This definition of protective oil includes, but is not limited to, lubricating oils, evaporative oils (including those that evaporate completely), and extrusion oils.

Quality control activities means surface coating or paint stripping activities that meet all of the following criteria:

(1) The activities associated with a surface coating or paint stripping operation are intended to detect and correct defects in the final product by selecting a limited number of samples from the operation, and comparing the samples against specific performance criteria.

(2) The activities do not include the production of an intermediate or final product for sale or exchange for commercial profit; for example, parts that are surface coated or stripped are not sold and do not leave the facility.

(3) The activities are not a normal part of the surface coating or paint stripping operation; for example, they do not include color matching activities performed during a motor vehicle collision repair.

(4) The activities do not involve surface coating or stripping of the tools, equipment, machinery, and structures that comprise the infrastructure of the affected facility and that are necessary for the facility to function in its intended capacity; that is, the activities are not facility maintenance.

Research and laboratory activities means surface coating or paint stripping activities that meet one of the following criteria:

(1) Conducted at a laboratory to analyze air, soil, water, waste, or product samples for contaminants, or environmental impact.

(2) Activities conducted to test more efficient production processes, including alternative paint stripping or surface coating materials or application methods, or methods for preventing or reducing adverse environmental impacts, provided that the activities do not include the production of an intermediate or final product for sale or exchange for commercial profit.

(3) Activities conducted at a research or laboratory facility that is operated under the close supervision of technically trained personnel, the primary purpose of which is to conduct research and

development into new processes and products and that is not engaged in the manufacture of products for sale or exchange for commercial profit.

Solvent means a fluid containing organic compounds used to perform paint stripping, surface prep, or cleaning of surface coating equipment.

Space Vehicle means vehicles designed to travel beyond the limit of the earth's atmosphere, including but not limited to satellites, space stations, and the Space Shuttle System (including orbiter, external tanks, and solid rocket boosters).

Spray-applied coating operations means coatings that are applied using a hand-held device that creates an atomized mist of coating and deposits the coating on a substrate. For the purposes of this subpart, spray-applied coatings do not include the following materials or activities:

(1) Coatings applied from a hand-held device with a paint cup capacity that is equal to or less than 3.0 fluid ounces (89 cubic centimeters).

(2) Surface coating application using powder coating, hand-held, non-refillable aerosol containers, or non-atomizing application technology, including, but not limited to, paint brushes, rollers, hand wiping, flow coating, dip coating, electrodeposition coating, web coating, coil coating, touch-up markers, or marking pens.

(3) Thermal spray operations (also known as metallizing, flame spray, plasma arc spray, and electric arc spray, among other names) in which solid metallic or non-metallic material is heated to a molten or semi-molten state and propelled to the work piece or substrate by compressed air or other gas, where a bond is produced upon impact.

Surface preparation or *Surface prep* means use of a cleaning material on a portion of or all of a substrate prior to the application of a coating.

Target HAP are compounds of chromium (Cr), lead (Pb), manganese (Mn), nickel (Ni), or cadmium (Cd).

Target HAP containing coating means a spray-applied coating that contains any individual target HAP that is an Occupational Safety and Health Administration (OSHA)-defined carcinogen as specified in 29 CFR 1910.1200(d)(4) at a concentration greater than 0.1 percent by mass, or greater than 1.0 percent by mass for any other individual target HAP compound. For the purpose of determining whether materials you use contain the target HAP compounds, you may rely on formulation data provided by the manufacturer or supplier, such as the material safety data sheet (MSDS), as long as it represents each target HAP compound in the material that is present at 0.1 percent by mass or more for OSHA-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and at 1.0 percent by mass or more for other target HAP compounds.

Transfer efficiency means the amount of coating solids adhering to the object being coated divided by the total amount of coating solids sprayed, expressed as a percentage. Coating solids means the nonvolatile portion of the coating that makes up the dry film.

Truck bed liner coating means any coating, excluding color coats, labeled and formulated for application to a truck bed to protect it from surface abrasion.

Table 1 to Subpart HHHHHH of Part 63—Applicability of General Provisions to Subpart HHHHHH of Part 63

Citation	Subject	Applicable to	Explanation

		subpart HHHHHH	
§ 63.1(a)(1)-(12)	General Applicability	Yes	
§ 63.1(b)(1)-(3)	Initial Applicability Determination	Yes	Applicability of subpart HHHHHH is also specified in § 63.11170.
§ 63.1(c)(1)	Applicability After Standard Established	Yes	
§ 63.1(c)(2)	Applicability of Permit Program for Area Sources	Yes	(63.11174(b) of Subpart HHHHHH exempts area sources from the obligation to obtain Title V operating permits.
§ 63.1(c)(5)	Notifications	Yes	
§ 63.1(e)	Applicability of Permit Program to Major Sources Before Relevant Standard is Set	No	(63.11174(b) of Subpart HHHHHH exempts area sources from the obligation to obtain Title V operating permits.
§ 63.2	Definitions	Yes	Additional definitions are specified in § 63.11180.
§ 63.3(a)-(c)	Units and Abbreviations	Yes	
§ 63.4(a)(1)-(5)	Prohibited Activities	Yes	
§ 63.4(b)-(c)	Circumvention/Fragmentation	Yes	
§ 63.5	Construction/Reconstruction of major sources	No	Subpart HHHHHH applies only to area sources.
§ 63.6(a)	Compliance With Standards and Maintenance Requirements—Applicability	Yes	
§ 63.6(b)(1)-(7)	Compliance Dates for New and Reconstructed Sources	Yes	§ 63.11172 specifies the compliance dates.
§ 63.6(c)(1)-(5)	Compliance Dates for Existing Sources	Yes	§ 63.11172 specifies the compliance dates.
§ 63.6(e)(1)-(2)	Operation and Maintenance	Yes	
§ 63.6(e)(3)	Startup, Shutdown, and Malfunction Plan	No	No startup, shutdown, and malfunction plan is required by subpart HHHHHH.
§ 63.6(f)(1)	Compliance Except During Startup, Shutdown, and Malfunction	Yes	
§ 63.6(f)(2)-(3)	Methods for Determining Compliance	Yes	
§ 63.6(g)(1)-(3)	Use of an Alternative Standard	Yes	
§ 63.6(h)	Compliance With Opacity/Visible Emission Standards	No	Subpart HHHHHH does not establish opacity or visible emission standards.

§ 63.6(i)(1)-(16)	Extension of Compliance	Yes	
§ 63.6(j)	Presidential Compliance Exemption	Yes	
§ 63.7	Performance Testing Requirements	No	No performance testing is required by subpart HHHHHH.
§ 63.8	Monitoring Requirements	No	Subpart HHHHHH does not require the use of continuous monitoring systems.
§ 63.9(a)-(d)	Notification Requirements	Yes	§ 63.11175 specifies notification requirements.
§ 63.9(e)	Notification of Performance Test	No	Subpart HHHHHH does not require performance tests.
§ 63.9(f)	Notification of Visible Emissions/Opacity Test	No	Subpart HHHHHH does not have opacity or visible emission standards.
§ 63.9(g)	Additional Notifications When Using CMS	No	Subpart HHHHHH does not require the use of continuous monitoring systems.
§ 63.9(h)	Notification of Compliance Status	No	§ 63.11175 specifies the dates and required content for submitting the notification of compliance status.
§ 63.9(i)	Adjustment of Submittal Deadlines	Yes	
§ 63.9(j)	Change in Previous Information	Yes	§ 63.11176(a) specifies the dates for submitting the notification of changes report.
§ 63.10(a)	Recordkeeping/Reporting—Applicability and General Information	Yes	
§ 63.10(b)(1)	General Recordkeeping Requirements	Yes	Additional requirements are specified in § 63.11177.
§ 63.10(b)(2)(i)-(xi)	Recordkeeping Relevant to Startup, Shutdown, and Malfunction Periods and CMS	No	Subpart HHHHHH does not require startup, shutdown, and malfunction plans, or CMS.
§ 63.10(b)(2)(xii)	Waiver of recordkeeping requirements	Yes	
§ 63.10(b)(2)(xiii)	Alternatives to the relative accuracy test	No	Subpart HHHHHH does not require the use of CEMS.
§ 63.10(b)(2)(xiv)	Records supporting notifications	Yes	
§ 63.10(b)(3)	Recordkeeping Requirements for Applicability Determinations	Yes	
§ 63.10(c)	Additional Recordkeeping Requirements for Sources with CMS	No	Subpart HHHHHH does not require the use of CMS.
§ 63.10(d)(1)	General Reporting Requirements	Yes	Additional requirements are specified in § 63.11176.

§ 63.10(d)(2)-(3)	Report of Performance Test Results, and Opacity or Visible Emissions Observations	No	Subpart HHHHHH does not require performance tests, or opacity or visible emissions observations.
§ 63.10(d)(4)	Progress Reports for Sources With Compliance Extensions	Yes	
§ 63.10(d)(5)	Startup, Shutdown, and Malfunction Reports	No	Subpart HHHHHH does not require startup, shutdown, and malfunction reports.
§ 63.10(e)	Additional Reporting requirements for Sources with CMS	No	Subpart HHHHHH does not require the use of CMS.
§ 63.10(f)	Recordkeeping/Reporting Waiver	Yes	
§ 63.11	Control Device Requirements/Flares	No	Subpart HHHHHH does not require the use of flares.
§ 63.12	State Authority and Delegations	Yes	
§ 63.13	Addresses of State Air Pollution Control Agencies and EPA Regional Offices	Yes	
§ 63.14	Incorporation by Reference	Yes	Test methods for measuring paint booth filter efficiency and spray gun transfer efficiency in § 63.11173(e)(2) and (3) are incorporated and included in § 63.14.
§ 63.15	Availability of Information/Confidentiality	Yes	
§ 63.16(a)	Performance Track Provisions—reduced reporting	Yes	
§ 63.16(b)-(c)	Performance Track Provisions—reduced reporting	No	Subpart HHHHHH does not establish numerical emission limits.

Indiana Department of Environmental Management
Office of Air Quality

Addendum to the Technical Support Document (ATSD) for a Significant Source Modification to a Part 70 Source

Source Background and Description

Source Name: **Cummins Inc., Seymour Engine Plant**
Source Location: **800 E. Third Street, Seymour, IN 47274**
County: **Jackson**
SIC Code: **3519**
Operation Permit No.: **F071-30358-00015**
Operation Permit Issuance Date: **November 29, 2011**
Significant Source Modification No.: **071-33555-00015**
Significant Permit Modification No.: **071-33585-00015**
Permit Reviewer: **Deena Patton**

On December 19, 2013, the Office of Air Quality (OAQ) had a notice published in The Tribune, Seymour, Indiana, stating that Cummins Inc., Seymour Engine Plant had applied for a Significant Source and Permit Modification to install a new engine test cell (HHP15) for testing diesel engines. The notice also stated that the OAQ proposed to issue a Significant Source and Permit Modification for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

Comments and Responses

On January 17, 2014, Bernie Paul submitted comments to IDEM, OAQ on the draft Significant Source and Permit Modification to the Part 70 Permit.

The Technical Support Document (TSD) is used by IDEM, OAQ for historical purposes. IDEM, OAQ does not make any changes to the original TSD, but the Permit will have the updated changes. The comments and revised permit language are provided below with deleted language as ~~strikeouts~~ and new language **bolded**.

Comment 1:

In condition C.9(b), IDEM deleted "or of initial start up" or similar language, when making this change, the phrase "whichever is later", which follows the deleted wording, should also be deleted in order for the sentences to make sense.

Response to Comment 1:

IDEM agrees with the recommended changes, since the sentences need to be clear and concise. The permit has been revised as requested above.

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

C.9 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)] [40 CFR 64]

****

(b) **For existing units:**

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 ~~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 ~~whichever is later,~~ the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

***

Comment 2:

IDEM proposed to add an unnumbered paragraph after (b), which as written states that the limits in D.5.1(a) and D.5.1(b) limit CO and NOx emissions to less than 100 ton/year. This is not exactly correct, because D.5.1(b) limits NOx emissions to less than 40 ton/yr. Cummins proposes to revise the unnumbered paragraph to read:

"Compliance with these limits shall limit the CO emissions from the engine test cell (HHP15) to less than one hundred (100) tons per year, limit the NOx emissions from the engine test cell (HHP15) to less than forty (40) tons per year, and render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable to this 2014 modification."

Response to Comment 2:

IDEM agrees with the recommended changes, since the sentences need to be clear and concise. The permit has been revised as requested above.

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

D.5.1 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]

(a) The total CO emissions from the engine test cell, HHP15, shall not exceed 99 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

(b) The total NOx emissions from the engine test cell, HHP15, shall not exceed 39 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

~~Compliance with these limits shall limit the CO and NOx emissions from the engine test cell (HHP15) to less than one hundred (100) tons per year and render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable to this 2014 modification.~~
Compliance with these limits shall limit the CO emissions from the engine test cell (HHP15) to less than one hundred (100) tons per year, limit the NOx emissions from the engine test cell (HHP15) to less than forty (40) tons per year, and render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable to this 2014 modification.

Comment 3:

The unnumbered paragraph after D.5.11(a) contains a typographical error. The word "years" is misspelled.

Response to comment 3:

IDEM agrees with the recommended changes, since the sentences need to be clear and concise. The permit has been revised as requested above.

D.5.11 Record Keeping Requirements

(a) To document the compliance status with Condition D.5.1(a) and D.5.1(b), the Permittee shall maintain records in accordance with (1) and (2) below:

(1) Calendar dates covered in the compliance determination period; and

(2) Actual diesel, biodiesel fuel oil and natural gas, usage since last compliance determination period and equivalent NOx and CO emissions.

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.

Comment 4:

The last part of the descriptive information for insignificant activity (e) should say: "Under 40 CFR 60 Subpart IIII, the emergency generators are affected sources." The reference in the public notice version of the permit test cells as being subject to Subpart IIII is not correct.

Similarly, in E.1.1, the condition should not refer to test cells and should read:

"The provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 12-1, apply to the emergency generators described in this section except when otherwise specified in Table 8 to 40 CFR Part 60, Subpart IIII.

Response to Comment 4:

IDEM does not agree with the recommended changes for the insignificant activity (e), since (e) is a diesel storage tank and is therefore not regulated by 40 CFR Part 60, Subpart IIII. However, insignificant activity (g) is regulated and it has already been noted in the permit under (g). No changes were made.

IDEM does agree with the changes in E.1.1, to clarify what is subject to 40 CFR Part 60, Subpart IIII. The following changes have been made:

E.1.1 General Provisions Relating to NSPS [326 IAC 12] [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 the emergency generator**s** ~~and engine test cells~~ described in this section except when otherwise specified in Table 8 to 40 CFR Part 60, Subpart IIII.

IDEM Contact

(a) Questions regarding this proposed Significant Source and Permit Modification can be directed to Deena Patton 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) 234-5400 or toll free at 1-800-451-6027 extension 4-5400.

(b) A copy of the permit 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.idem.in.gov

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Part 70 Significant Source Modification and Significant Permit Modification

Source Description and Location

Source Name: **Cummins Inc., Seymour Engine Plant**
Source Location: **800 East Third Street, Seymour, IN 47274**
County: **Jackson**
SIC Code: **3519**
Operation Permit No.: **T 071-30358-00015**
Operation Permit Issuance Date: **November 29, 2011**
Significant Source Modification No.: **071-33555-00015**
Significant Permit Modification No.: **071-33585-00015**
Permit Reviewer: **Deena Patton**

Existing Approvals

The source was issued Part 70 Operating Permit No. 071-30358-00015 on November 29, 2011. The source has since received the following approvals:

Permit Type	Permit Number	Issuance Date
Significant Source Modification	071-30956-00015	February 20, 2012
Significant Permit Modification	071-30962-00015	March 8, 2012
Review Request	071-31949-00015	June 14, 2012
Administrative Amendment	071-32100-00015	July 19, 2012
Minor Source Modification	071-32374-00015	October 23, 2012
Significant Permit Modification	071-32412-00015	January 10, 2013
Administrative Amendment	071-32763-00015	January 28, 2013
Minor Source Modification	071-32823-00015	April 11, 2013
Significant Permit Modification	071-32903-00015	June 3, 2013
Administrative Amendment	071-33400-00015	July 31, 2013
Interim Significant Source Modification	071-33555I-00015	September 11, 2013

County Attainment Status

The source is located in Jackson County.

Pollutant	Designation
SO_2	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O_3	Attainment effective December 29, 2005, for the 8-hour ozone standard.[1]
PM_{10}	Unclassifiable effective November 15, 1990.
NO_2	Cannot be classified or better than national standards.
Pb	Unclassifiable or attainment effective December 31, 2011.
[1]Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005.	

(a) Ozone Standards
Volatile organic compounds (VOC) and Nitrogen Oxides (NO_x) 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 NO_x emissions are considered when evaluating the rule applicability relating to ozone. Jackson County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(b) $PM_{2.5}$
Jackson County has been classified as attainment for $PM_{2.5}$. On May 8, 2008, U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for $PM_{2.5}$ emissions. These rules became effective on July 15, 2008. Therefore, direct $PM_{2.5}$, SO_2, and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability – Entire Source section.

(c) Other Criteria Pollutants
Jackson County has been classified as attainment or unclassifiable in Indiana for all regulated pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2, 326 IAC 2-3, or 326 IAC 2-7, and there is no applicable New Source Performance Standard that was in effect on August 7, 1980, fugitive emissions are not counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

Source Status

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

Pollutant	**Emissions** (ton/yr)
PM	147.11
PM_{10}	138.39
$PM_{2.5}$	133.87
SO_2	330.42
VOC	417.97
CO	440.83
NO_X	472.28
GHGs as CO_2e	198,715.30

Pollutant	Emissions (ton/yr)
Single HAP	Less than 10
Total HAPs	Less than 25

(a) This existing source is a major stationary source, under PSD (326 IAC 2-2), because a regulated pollutant is emitted at a rate of 250 tons per year or more, emissions of GHGs are equal to or greater than one hundred thousand (100,000) tons of CO_2 equivalent emissions (CO_2e) per year, and it is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(ff)(1).

(b) These emissions are based upon Technical Support Document for Minor Source Modification No. 071-32823-00015 and emission calculations for Administrative Amendment No. 071-33400-00015.

(c) This existing source is not a major source of HAPs, as defined in 40 CFR 63.2, because HAPs emissions are 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. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA).

Description of Proposed Modification

The Office of Air Quality (OAQ) has reviewed a modification application, submitted by Cummins Inc., Seymour Engine Plant on August 21, 2013, relating to the installation of a new engine test cell (HHP15) for testing diesel engines. The following is a list of the proposed emission unit and pollution control devices:

(a) One (1) production engine test cell, identified as HHP15, permitted in 2014, powered by diesel, biodiesel, or natural gas with a maximum output of 9,000 hp, equipped with an in-stack duct burner, with maximum capacity of 5.0 MMBtu/hr, selective catalytic reduction for the control of NOx emissions, an oxidation catalyst for the control of CO emissions, and exhausting to stack HHP15.1.

Enforcement Issues

There are no pending enforcement actions.

Emission Calculations

See Appendix A of this Technical Support Document for detailed emission calculations.

Permit Level Determination – Part 70

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

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

Increase in PTE Before Controls of the Modification	
Pollutant	**Potential To Emit** (ton/yr)
PM	7.52
PM_{10}	7.12
$PM_{2.5}$	6.86
SO_2	0.20
VOC	14
CO	104
NO_X	494
GHGs	22427
Single HAPs	<10
Total HAPs	<25

Appendix A of this TSD reflects the unrestricted potential emissions of the modification.

This source modification is subject to 326 IAC 2-7-10.5(g)(4), any modification with a potential to emit greater than or equal to twenty-five (25) tons per year of VOC and Nitrogen Oxides (NOx). Additionally, the modification will be incorporated into the Part 70 Operating Permit through a significant permit modification issued pursuant to 326 IAC 2-7-12(d)(1), because this modification requires a case-by-case determination of an emission limitation or other standard.

Permit Level Determination – PSD

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

	Potential to Emit (ton/yr)							
Process / Emission Unit	**PM**	**PM_{10}**	**$PM_{2.5}$***	**SO_2**	**VOC**	**CO**	**NO_X**	**GHGs**
HHP15	7.52	7.12	6.86	0.20	14	99.00	39.00	22427
Total for Modification	7.52	7.12	6.86	0.20	14	99.00	39.00	22427
Significant Level	25	15	10	40	40	100	40	75,000 CO_2e

*$PM_{2.5}$ listed is direct $PM_{2.5}$.

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

Since this source is considered a major PSD source and the unrestricted potential to emit of this modification is greater than one-hundred (100) tons of CO per year and forty (40) tons of NOx and VOC per year, each, this source has elected to limit the potential to emit of this modification as follows:

(a) The total CO emissions from the engine test cell, identified as HHP15, shall be less than 99 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

The CO emissions shall be calculated by the following equation:

CO emissions = (Diesel fuel burned in tz1 by HHP15 x COEFtz1df) +
(Diesel fuel burned in tz2 by HHP15 x COEFtz2df) +
(Diesel fuel burned in tz3 by HHP15 x COEFtz3df)

+

(Diesel fuel burned in HHP15 when DOC is not in operation x COEFepatestcells.df)

+

(Biodiesel fuel burned in tz1 by HHP15 x COEFtz1bd) +
(Biodiesel fuel burned in tz2 by HHP15 x COEFtz2bd) +
(Biodiesel fuel burned in tz3 by HHP15 x COEFtz3bd)

+

(Biodiesel fuel burned in HHP15 when DOC is not in operation x COEFepatestcells.bdf)

+

(Natural Gas burned in tz1 by HHP15 x COEFtz1ng) +
(Natural Gas burned in tz2 by HHP15 x COEFtz2ng) +
(Natural Gas burned in tz3 by HHP15 x COEFtz3ng)

+

(Natural Gas burned in HHP15 when DOC is not in operation x COEFepatestcells.ng)

+

(Natural Gas burned in the HHP15 duct burner x COEFepang)

Where:
tzx is the temperature range for the emission factor measured at the inlet of the DOC and the ranges will be the same as test engines HHP1, HHP6 through HHP14

COEFtzx.xx is the measured CO emission factor for the temperature range x for fuel xx when DOC is operating

COEFepatestcells.df is the USEPA emission factor for the test cells burning diesel fuels - used when DOC is not operating

COEFepatestcelss.bdf is the USEPA emission factor for test cells burning biodiesel fuel - used when DOC is not operating

COEFepatestcells.ng is the USEPA emission factor for test cells burning natural gas - used when DOC is not operating

COEFepang is the USEPA CO emission factor for duct burner burning natural gas (AP 42 4-1)

(b) The NOx emission rate from the one (1) engine test cell, identified as HHP15, controlled selective catalytic reduction (SCR) system, shall be less than 39 ton per twelve (12) consecutive month period with compliance determined at the end of each month.

The NOx emissions shall be calculated by the following equation:

NOx emissions =(Diesel fuel burned in tz1 by HHP15 x EFtz1df) +
(Diesel fuel burned in tz2 by HHP15 x EFtz2df) +
(Diesel fuel burned in tz3 by HHP15 x EFtz3df) +
(Diesel fuel burned in tz4 by HHP15 x EFtz4df) +
(Diesel fuel burned in tz5 by HHP15 x EFtz5df)+
(Diesel fuel burned in tz6 by HHP15 x EFtz6df) +
(Diesel fuel burned in tz7 by HHP15 x EFtz7df)

+

(Diesel fuel burned in HHP15 when SCR is not in operation x EFnocontrol.df)

+

(Biodiesel fuel burned in tz1 by HHP15 x EFtz1bd) +
(Biodiesel fuel burned in tz2 by HHP15 x EFtz2bd) +
(Biodiesel fuel burned in tz3 by HHP15 x EFtz3bd) +
(Biodiesel fuel burned in tz4 by HHP15 x EFtz4bd) +
(Biodiesel fuel burned in tz5 by HHP15 x EFtz5bd)+
(Biodiesel fuel burned in tz6 by HHP15 x EFtz6bd) +
(Biodiesel fuel burned in tz7 by HHP15 x EFtz7bd)

+

(Biodiesel fuel burned in HHP15 when SCR is not in operation x EFnocontrol.bdf)

+

(Natural Gas burned in tz1 by HHP15 x EFtz1ng) +
(Natural Gas burned in tz2 by HHP15 x EFtz2ng) +
(Natural Gas burned in tz3 by HHP15 x EFtz3ng) +
(Natural Gas burned in tz4 by HHP15 x EFtz4ng) +
(Natural Gas burned in tz5 by HHP15 x EFtz5ng)+
(Natural Gas burned in tz6 by HHP15 x EFtz6ng) +
(Natural Gas burned in tz7 by HHP15 x EFtz7ng)

+

(Natural Gas burned in HHP15 when SCR is not in operation x EFnocontrol.ng)

+

(Natural Gas burned in the HHP15 duct burner x EFepahiNOx)

Where:
tzx is the temperature range for the emission factor measured at the inlet of the SCR and the ranges will be the same as test engines HHP1, HHP6 through HHP14

EFtzx.xx is the measured NOx emission factor for the temperature range x for fuel xx when SCR is operating

EFnocontrol.df is the emission factor for the test cells operating with no SCR control and burning diesel fuel

EFnocontrol.bdf is the emission factor for test cells operating with no SCR control and burning biodiesel fuel

EFnocontrol.ng is the emission factor for test cells operating with no SCR control and burning natural gas

EFepahi NOx is the USEPA NOx emission factor for uncontrolled natural gas for duct burner (AP 42 4-1)

Compliance with these emission limits will render the requirements of 326 IAC 2-2 not applicable for the 2013 modification of test engine cell (HHP15).

Federal Rule Applicability Determination

The following federal rules are applicable to the source due to this modification):

NSPS:

(a) The test engine cell (HHP15) is not subject to the requirements of the New Source Performance Standard for Stationary Compression Ignition Internal Combustion Engines, 40 CFR 60.4200, Subpart IIII), due to the provisions of this subpart are not applicable to stationary CI ICE being tested at a stationary CI ICE test cell/stand.

(b) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) included to this proposed modification.

NESHAP:

(c) The test engine cell (HHP15) is not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Stationary Reciprocating Internal Combustion Engines, Subpart ZZZZ due to the stationary RICE being tested at a stationary RICE test cell/stand.

(d) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in this proposed modification.

COMPLIANCE ASSURANCE MONITORING:

(e) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is applicable to new or modified emission units that involve a pollutant-specific emission unit and meet the following criteria:

(1) has a potential to emit before controls equal to or greater than the Part 70 major source threshold for the pollutant involved;

(2) is subject to an emission limitation or standard for that pollutant; and

(3) uses a control device, as defined in 40 CFR 64.1, to comply with that emission limitation or standard.

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

CAM Applicability Analysis

Emission Unit	**Control Device Used**	**Emission Limitation** (Y/N)	**Uncontrolled PTE** (ton/yr)	**Controlled PTE** (ton/yr)	**Part 70 Major Source Threshold** (ton/yr)	**CAM Applicable** (Y/N)	**Large Unit** (Y/N)
HHP15 (NOx)	SCR	Y	492	24.5	100	Y	N
HHP15 (CO)	Oxidation Catalyst	Y	102	5.1	100	Y	N
HHP1, HHP6 through HHP14 (NOx)	SCR	Y	7380	369	100	Y	N
HHP1, HHP6 through HHP14 (CO)	Oxidation Catalyst	Y	1709	85.5	100	Y	N

Based on this evaluation, the requirements of 40 CFR Part 64, CAM are applicable to test engine cells (HHP1, HHP6 through HHP15) for NOx and CO upon issuance of the SPM 071-33585-00015. A CAM plan must be submitted as part of the Renewal application.

State Rule Applicability Determination

The following state rules are applicable to the source due to the modification:

326 IAC 2-1.1-5 (Nonattainment New Source Review)
Nonattainment New Source Review applicability is discussed under the Permit Level Determination – PSD section.

326 IAC 2-2 (PSD)
PSD applicability is discussed under the Permit Level Determination – PSD section.

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The operation of test engine cell (HHP15) will emit less than ten (10) tons per year for a single HAP and less than twenty-five (25) tons per year for a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply to HHP15.

40 CFR 63 (HAP Minor Limit)
The single HAP emissions shall be calculated using the following equation:

HAP emissions = The amount of single HAP (worst case) delivered to the coating applicators (EU-01G - EU-01K) from coatings, and dilution and cleaning solvents used in the paint spray line identified as EU-01

\+ (Diesel fuel and biodiesel fuel burned by all test cells and the 1490 hp emergency generator) x Ef1hs

\+ (Natural gas burned by all test cells and natural gas combustion equipment) x Ef2hs

\+ (Liquid Propane burned by engines in all test cells) X Ef3hs)

Where:

Uncontrolled natural gas combustion equipment consists of the following:

- Four (4) direct fired AHU, rated at 0.47 million British thermal units per hour, each.
- One (1) direct fired AHU, rated at 0.80 million British thermal units per hour.
- One (1) direct fired AHU, rated at 0.67 million British thermal units per hour.
- Two (2) direct fired AHU, rated at 0.30 million British thermal units per hour, each.
- Two (2) direct fired AHU, rated at 2.72 million British thermal units per hour, each.
- One (1) direct fired AHU, rated at 2.59 million British thermal units per hour.
- Two (2) dry and curing combustion units, rated at 2.40 million British thermal units per hour, each.
- Eight (8) unit heaters, rated at 0.15 million British thermal units per hour, each.
- Nine (9) unit heaters, rated at 0.18 million British thermal units per hour, each.
- Seventeen (17) air handling units rated at 25.5 mmBTU/hr total.
- One (1) unit heater rated at 0.4 mmBTU/hr.
- Thirteen (13) boilers, identified as EU03C, EU03D, EU03I, through EU03M, EU03S through EU03V, EU03W and EU0X.
- Eleven (11) duct burners associated with engine test cells HHP1 and HHP6 through HHP15

Low NOx burner equipped natural gas combustion equipment consists of the following:

- Two (2) direct fired AHU, rated at 3.27 million British thermal units per hour, each equipped with Low NOx burner.
- Two (2) dry and curing combustion units, rated at 1.76 million British thermal units per hour, each, equipped with Low NOx burner.
- Nine (9) boilers, identified as EU03E,through EU03H, and EU03N through EU03R.

Ef1hs = Emission Factor is the emission factor for diesel and biodiesel fuel burned in test cells and the 1490 hp emergency generator for single HAP

Ef2hs = Emission Factor is the emission factor for natural gas burned in test cells and natural gas combustion equipment for single HAP;

Ef3hs= Emission Factor is the emission factor for liquid propane fuel burned in test cells for single HAPs

The total HAP emissions shall be calculated using the following equation:

HAP emissions = The amount of total HAP delivered to the coating applicators (EU-01G - EU-01K) from coatings, and dilution and cleaning solvents used in the paint spray line identified as EU-01

\+ (Diesel fuel and biodiesel fuel burned by engines in all test cells and the 1490 hp emergency generator) x Ef1ht,

\+ (Natural gas burned by engines in all test cells and natural gas combustion equipment) x Ef2ht

\+

(Liquid Propane burned by engines in all test cells) X Ef3ht

Where:

Uncontrolled natural gas combustion equipment consists of the following:

- Four (4) direct fired AHU, rated at 0.47 million British thermal units per hour, each.
- One (1) direct fired AHU, rated at 0.80 million British thermal units per hour.
- One (1) direct fired AHU, rated at 0.67 million British thermal units per hour.
- Two (2) direct fired AHU, rated at 0.30 million British thermal units per hour, each.
- Two (2) direct fired AHU, rated at 2.72 million British thermal units per hour, each.
- One (1) direct fired AHU, rated at 2.59 million British thermal units per hour.
- Two (2) dry and curing combustion units, rated at 2.40 million British thermal units per hour, each.
- Eight (8) unit heaters, rated at 0.15 million British thermal units per hour, each.
- Nine (9) unit heaters, rated at 0.18 million British thermal units per hour, each.
- Seventeen (17) air handling units rated at 25.5 mmBTU/hr total.
- One (1) unit heater rated at 0.4 mmBTU/hr.
- Thirteen (13) boilers, identified as EU03C, EU03D, EU03I, through EU03M, EU03S through EU03V, EU03W and EU0X.
- Eleven (11) duct burners associated with engine test cells HHP1 and HHP6 through HHP15

Low NOx burner equipped natural gas combustion equipment consists of the following:

- Two (2) direct fired AHU, rated at 3.27 million British thermal units per hour, each equipped with Low NOx burner.
- Two (2) dry and curing combustion units, rated at 1.76 million British thermal units per hour, each, equipped with Low NOx burner.
- Nine (9) boilers, identified as EU03E,through EU03H, and EU03N through EU03R.

Natural gas combustion equipment includes boilers, air handling units, drying and curing combustion equipment and unit heaters

Ef1ht = Emission Factor for diesel and biodiesel fuel burned in test cells and the 1490 hp emergency generator for total HAPs

Ef2ht = Emission Factor for natural gas burned in test cells and natural gas combustion equipment for total HAPs

Ef3ht= Emission Factor for liquid propane fuel burned in test cells for total HAPs

326 IAC 2-6 (Emission Reporting)
Since this source is required to have an operating permit under 326 IAC 2-7, Part 70 Permit Program, this source is subject to 326 IAC 2-6 (Emission Reporting). In accordance with the compliance schedule in 326 IAC 2-6-3, an emission statement must be submitted annually. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

326 IAC 6-2 (Particulate Emission Limitations for Sources of Indirect Heating)
Pursuant to 326 IAC 6-2-1, the one (1) engine test cell (HHP15) is not subject to the requirements of 326 IAC 6-2-4, since it is not a source of indirect heating.

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-1, the one (1) engine test cell (HHP15) is not part of the manufacturing process and is therefore not subject to the requirements of this rule.

326 IAC 7 (Sulfur Dioxide Rules)
Pursuant to 326 IAC 7-1.1-1, the one (1) engine test cell (HHP15) is not subject to the requirements of 326 IAC 7-1.1-1, since the potential to emit sulfur dioxide (SO_2) is less than twenty-five (25) tons per year.

326 IAC 8-1-6 (Volatile Organic Compounds New Facilities; general reduction requirements)
Pursuant to 326 IAC 8-1-6, the one (1) engine test cell (HHP15) is not subject to the requirements of 326 IAC 8-1-6, since the potential emissions of VOC is not equal to or greater than twenty-five (25) tons per year.

Compliance Determination and Monitoring Requirements

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

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

The Compliance Determination and Monitoring Requirements applicable to this modification are as follows:

(a) The one (1) test engine cell (HHP15) has applicable compliance monitoring conditions as specified below:

<table>
<tr><th>Emission Unit/ID</th><th>Control</th><th>Operating Parameter</th><th>Monitoring Frequency</th><th>Range</th><th>Excursions and Exceedances</th></tr>
<tr><td rowspan="2">Test Engine Cell (HHP15)</td><td rowspan="2">SCR</td><td>Temperature and Fuel rate</td><td rowspan="2">Continuously</td><td rowspan="2">Normal-Abnormal</td><td rowspan="2">Response Steps</td></tr>
<tr><td>Urea Flow Rate</td></tr>
<tr><td rowspan="2">Test Engine Cell (HHP15)</td><td rowspan="2">Catalytic Oxidizer (CO)</td><td>Temperature and Fuel Rate</td><td rowspan="2">Continuously</td><td rowspan="2">Normal-Abnormal</td><td rowspan="2">Response Steps</td></tr>
<tr><td>Performance Characteristics</td></tr>
</table>

These monitoring conditions are necessary because the selective catalytic reduction (SCR) and the catalytic oxidizer must operate properly for the source to utilize a reduced emission factor for purposes of demonstrating compliance with emission limits and 326 IAC 2-7 (Part 70).

(b) The testing requirements applicable to this source are as follows:

Testing Requirements				
Emission Unit	**Control Device**	**Pollutant**	**Timeframe for Testing**	**Frequency of Testing**
Test Engine Cell (HHP15)	SCR and CO	NOx and CO	180 days	every 5 years from a representative engine (HHP1, HHP6 through HHP15)

Proposed Changes

The changes listed below have been made to Part 70 Operating Permit No. 071-33400-00015. Deleted language appears as ~~strikethroughs~~ and new language appears in **bold**:

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(14)]

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

(t) **One (1) production engine test cell, identified as HHP15, approved for construction in 2013, powered by diesel, biodiesel, or natural gas with a maximum output of 9,000 hp, equipped with an in-stack duct burner, with maximum capacity of 5.0 MMBtu/hr, selective catalytic reduction (SCR) for the control of NOx emissions, an oxidation catalyst for the control of CO emissions, and exhausting to stack HHP15.1.**

***

IDEM is changing the Section C Compliance Monitoring Condition to clearly describe when new monitoring for new and existing units must begin.

C.9 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]**[40 CFR 64]**

(a) **For new units:**

Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units shall be implemented on and after the date of initial start-up.

(b) **For existing units:**

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 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

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

(~~b~~**c**) For monitoring required by CAM, at all times, the Permittee shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.

(**d**~~c~~) For monitoring required by CAM, except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the Permittee shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

***

SECTION D.2 EMISSION UNIT OPERATION CONDITIONS

Emissions Unit Description:

***

(t) One (1) production engine test cell, identified as HHP15, permitted in 2014, powered by diesel, biodiesel, or natural gas, with a maximum output of 9,000 hp, equipped with an in-stack duct burner, with maximum capacity of 5.0 MMBtu/hr, selective catalytic reduction (SCR) for the control of NOx emissions, an oxidation catalyst for the control of CO emissions, and exhausting to stack HHP15.1.

***

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

***

D.2.2 HAPs Minor Limits [40 CFR 63]

The Permittee shall comply with the following:

(a) The single HAP from the paint spray line booth, identified as EU-01, ~~twenty five~~ **twenty-seven** (~~25~~**27**) engine test cells, identified as 801-808, HHP1-HHP~~14~~**15**, 8(PI), 9(PI), 10(PI), **11(PI)**~~EU-02C~~, the ~~ten (10)~~**eleven (11)** in-stack duct burners associated with HHP-1 and HHP 6-~~14~~**15, the 1490 hp emergency generator,** and the natural gas combustion equipments shall be less than 9.5 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

The single HAP emissions shall be calculated by the following equation:

HAP emissions = The amount of single HAP (worst case) delivered to the coating applicators (EU-01G - EU-01K) from coatings, and dilution and cleaning solvents used in the paint spray line identified as EU-01

\+ (Diesel fuel and biodiesel fuel burned by all test cells ~~identified in EU-02~~ and the **1490 hp** emergency generator) x Ef1hs

\+ (Natural gas burned by all test cells ~~identified in EU-02~~ and natural gas combustion equipment) x Ef2hs

\+

(Liquid Propane burned by **engines in** all test cells ~~identified in EU-02~~) X Ef3hs)

\+

~~(Hydrogen Gas burned by all test cells identified in EU-02) X Ef4hs~~

Where:

Uncontrolled natural gas combustion equipment consists of the following:

- Four (4) direct fired AHU, rated at 0.47 million British thermal units per hour, each.
- One (1) direct fired AHU, rated at 0.80 million British thermal units per hour.
- One (1) direct fired AHU, rated at 0.67 million British thermal units per hour.
- Two (2) direct fired AHU, rated at 0.30 million British thermal units per hour, each.
- Two (2) direct fired AHU, rated at 2.72 million British thermal units per hour, each.
- One (1) direct fired AHU, rated at 2.59 million British thermal units per hour.
- Two (2) dry and curing combustion units, rated at 2.40 million British thermal units per hour, each.
- Eight (8) unit heaters, rated at 0.15 million British thermal units per hour, each.
- Nine (9) unit heaters, rated at 0.18 million British thermal units per hour, each.
- Seventeen (17) air handling units ~~(permitted in 2013)~~ rated at 25.5 mmBTU/hr total.
- One (1) unit heater ~~(permitted in 2013)~~ rated at 0.4 mmBTU/hr.
- Thirteen (13) boilers, identified as EU03C, EU03D, EU03I, through EU03M, EU03S through EU03V, EU03W and EU0X. ~~(Section D.3)~~
- **Eleven (11) duct burners associated with engine test cells HHP1 and HHP6 through HHP15.**

Low NOx burner equipped natural gas combustion equipment consists of the following:

- Two (2) direct fired AHU, rated at 3.27 million British thermal units per hour, each equipped with Low NOx burner.
- Two (2) dry and curing combustion units, rated at 1.76 million British thermal units per hour, each, equipped with Low NOx burner.
- Nine (9) boilers, identified as EU03E,through EU03H, and EU03N through EU03R. ~~(Section D.3)~~

Ef1hs = Emission Factor is the emission factor for diesel and biodiesel fuel burned in test cells and the **1490 hp** emergency generator for single HAP

Ef2hs = Emission Factor is the emission factor for natural gas burned in test cells and natural gas combustion equipment for single HAP;

Ef3hs= Emission Factor is the emission factor for liquid propane fuel burned in test cells for single HAPs

~~Ef4hs= Emission Factor is the emission factor for hydrogen gas burned in test cells for single HAPs~~

(b) The total HAP from the paint spray line booth, identified as EU-01, ~~twenty five (25)~~ **twenty-seven (27)** engine test cells, identified as 801-808, HHP1-HHP~~14~~**15**, 8(PI), 9(PI), 10(PI), **11(PI)**~~EU-02C~~, the ~~ten (10)~~ **eleven (11)** in-stack duct burners associated with HHP-1 and HHP 6-~~14~~**15, the 1490 hp emergency generator,** and natural gas combustion equipments shall be less than 24.0 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

The total HAP emissions shall be calculated by the following equation:

HAP emissions = The amount of total HAP delivered to the coating applicators (EU-01G - EU-01K) from coatings, and dilution and cleaning solvents used in the paint spray line identified as EU-01

\+ (Diesel fuel and biodiesel fuel burned **by engines** in all test cells ~~identified in EU-02~~ and the **1490 hp** emergency generator) x Ef1ht,

\+ (Natural gas burned by **engines in** all test cells ~~identified in EU-02~~ and natural gas combustion equipment) x Ef2ht

\+

(Liquid Propane burned **by engines** in all test cells ~~identified in EU-02~~) X Ef3ht

\+

~~(Hydrogen Gas burned in all test cells identified in EU-02) X Ef4ht~~

Where:

Uncontrolled natural gas combustion equipment consists of the following:

- Four (4) direct fired AHU, rated at 0.47 million British thermal units per hour, each.
- One (1) direct fired AHU, rated at 0.80 million British thermal units per hour.
- One (1) direct fired AHU, rated at 0.67 million British thermal units per hour.
- Two (2) direct fired AHU, rated at 0.30 million British thermal units per hour, each.
- Two (2) direct fired AHU, rated at 2.72 million British thermal units per hour, each.
- One (1) direct fired AHU, rated at 2.59 million British thermal units per hour.
- Two (2) dry and curing combustion units, rated at 2.40 million British thermal units per hour, each.
- Eight (8) unit heaters, rated at 0.15 million British thermal units per hour, each.
- Nine (9) unit heaters, rated at 0.18 million British thermal units per hour, each.

- Seventeen (17) air handling units ~~(permitted in 2013)~~ rated at 25.5 mmBTU/hr total.
- One (1) unit heater ~~(permitted in 2013)~~ rated at 0.4 mmBTU/hr.
- Thirteen (13) boilers, identified as EU03C, EU03D, EU03I, through EU03M, EU03S through EU03V, EU03W and EU0X. ~~(Section D.3)~~
- **Eleven (11) duct burners associated with engine test cells HHP1 and HHP6 through HHP15.**

Low NOx burner equipped natural gas combustion equipment consists of the following:

- Two (2) direct fired AHU, rated at 3.27 million British thermal units per hour, each equipped with Low NOx burner.
- Two (2) dry and curing combustion units, rated at 1.76 million British thermal units per hour, each, equipped with Low NOx burner.
- Nine (9) boilers, identified as EU03E,through EU03H, and EU03N through EU03R. ~~(Section D.3)~~

~~Where:~~

Natural gas combustion equipment includes boilers, air handling units, drying and curing combustion equipment and unit heaters

Ef1ht = Emission Factor for diesel and biodiesel fuel burned in test cells and the **1490 hp** emergency generator for total HAPs

Ef2ht = Emission Factor for natural gas burned in test cells and natural gas combustion equipment for total HAPs

Ef3ht= Emission Factor for liquid propane fuel burned in test cells for total HAPs

~~Ef4ht= Emission Factor for hydrogen gas burned in test cells for total HAPs~~

Compliance with these limits, the limit in Condition D.1.2, and the potential HAP emissions from the other emission units at this source, will limit the source-wide emissions of HAPs to less than ten (10) tons of a single HAP and less than twenty-five (25) tons of a combination of HAPs per twelve (12) consecutive month period and render the requirements of 326 IAC 2-4.1, not applicable to this source and make the source an area source of HAPs.

***

D.2.9 SCR Parametric Monitoring

(a) In order to demonstrate compliance status with Conditions D.2.1(e), the Permittee shall monitor the selective catalyst reduction (SCR) temperature and fuel used with a continuous fuel and temperature monitoring system. Fuel consumption will be recorded for each temperature zone tested in section 2.7 (a). The Permittee shall comply with the following:

(i) The test cells and the SCR shall operated such that the temperature and fuel consumption will be monitored continuously. Failure of either the temperature or fuel monitoring system for more than three (3) hours will require reasonable response steps to be taken to return the system to normal operation. Failure to take response steps shall be considered as a deviation from the permit. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition.

(ii) In order to demonstrate compliance status with Conditions D.2.1(e), the Permittee shall continuously monitor the urea flow rate used in conjunction with the test cell SCR. The urea flow rate will be compared to the corresponding inlet ~~NOx~~ **NO and NO_2** load and the SCR temperature based performance characteristics. If the urea flow rate does not correlate with that of the most recent stack test specified in section 2.7(a), the Permittee shall take reasonable response steps. Failure to take response steps shall be considered as a deviation from the permit. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition.

***

D.4.1 Volatile Organic Compounds (VOC) [326 IAC 8-3-2]

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Degreaser Control and Equipment Operating Requirements), the Permittee shall:

(a) Ensure the following control equipment and operating requirements are met:

(1) Equip the degreaser with a cover.

(2) Equip the degreaser with a device for draining cleaned parts.

(3) Close the degreaser cover whenever parts are not being handled in the degreaser.

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

(5) Provide a permanent, conspicuous label that lists the operating requirements in subdivisions (3), (4), (6), and (7).

(6) Store waste solvent only in closed containers.

(7) Prohibit the disposal or transfer of waste solvent in such a manner that could allow greater than twenty percent (20%) of the waste solvent (by weight) to evaporate into the atmosphere.

(b) Ensure the following additional control equipment and operating requirements are met:

(1) Equip the degreaser with one (1) of the following control devices if the solvent is heated to a temperature of greater than forty-eight and nine-tenths (48.9) degrees Celsius (one hundred twenty (120) degrees Fahrenheit):

(A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
(B) A water cover when solvent used is insoluble in, and heavier than, water.
(C) A refrigerated chiller.
(D) Carbon adsorption.
(E) An alternative system of demonstrated equivalent or better control as those outlined in clauses (A) through (D) that is approved by the department. An alternative system shall be submitted to the U.S. EPA as a SIP revision.

(2) Ensure the degreaser cover is designed so that it can be easily operated with one (1) hand if the solvent is agitated or heated.

(3) If used, solvent spray:

(A) must be a solid, fluid stream; and

(B) shall be applied at a pressure that does not cause excessive splashing.

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

~~(a) The owner or operator of a cold cleaner degreaser shall ensure the following control equipment and operating requirements are met:~~

~~(1) Equip the degreaser with a cover.~~

~~(2) Equip the degreaser with a device for draining cleaned parts.~~

~~(3) Close the degreaser cover whenever parts are not being handled in the degreaser.~~

~~(4) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases.~~

~~(5) Provide a permanent, conspicuous label that lists the operating requirements in subdivisions (3), (4), (6), and (7).~~

~~(6) Store waste solvent only in closed containers.~~

~~(7) Prohibit the disposal or transfer of waste solvent in such a manner that could allow greater than twenty percent (20%) of the waste solvent (by weight) to evaporate into the atmosphere.~~

~~(b) The owner or operator of a cold cleaner degreaser subject to this subsection shall ensure the following additional control equipment and operating requirements are met:~~

~~(1) Equip the degreaser with one (1) of the following control devices if the solvent is heated to a temperature of greater than forty-eight and nine-tenths (48.9) degrees Celsius (one hundred twenty (120) degrees Fahrenheit):~~

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

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

~~(C) A refrigerated chiller.~~

~~(D) Carbon adsorption.~~

~~(E) An alternative system of demonstrated equivalent or better control as those outlined in clauses (A) through (D) that is approved by the department. An alternative system shall be submitted to the U.S. EPA as a SIP revision.~~

~~(2) Ensure the degreaser cover is designed so that it can be easily operated with one (1) hand if the solvent is agitated or heated.~~

~~(3) If used, solvent spray:~~

~~(A) must be a solid, fluid stream; and~~
~~(B) shall be applied at a pressure that does not cause excessive splashing.~~

***

D.4.2 Material Requirements for Cold Cleaner Degreasers [326 IAC 8-3-8]

Pursuant to 326 IAC 8-3-8 (Material Requirements for Cold Cleaner Degreasers), on and after January 1, 2015, the Permittee shall not operate a cold cleaning degreaser with a solvent that has a VOC composite partial vapor pressure that exceeds one (1) millimeter of mercury (nineteen-thousandths (0.019) pound per square inch) measured at twenty (20) degrees Celsius (sixty-eight (68) degrees Fahrenheit).

D.4.~~2~~**3** Particulate Emission Limitations for Manufacturing Processes[326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(d) (Particulate emission limitations, work practices, and control technologies), the particulate from the grinding and machining operations shall be limited by the following:

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:

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

D.4.~~3~~**4** Standards of Performance for Volatile Organic Liquid Storage Vessels [326 IAC 12] [40 CFR 60, Subpart Kb]

The one (1) 25,000 gallon No.2 diesel storage tank and the one (1) 100,000 gallon No 2 diesel storage tank shall comply with the New Source Performance Standards (NSPS), 326 IAC 12 (40 CFR Part 60, Subpart Kb). 40 CFR Part 60.116b paragraphs (a) and (b) require the Permittee to maintain accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. Records shall be kept for the life of the storage tanks.

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

D.4.~~4~~**5** Standards of Performance for Volatile Organic Liquid Storage Vessels [326 IAC 12] [40 CFR 60, Subpart Kb]

The Permittee shall maintain accessible records showing the dimension of the No.2 diesel storage tank and an analysis showing the capacity of the storage vessel. Records shall be kept for the life of the storage tank.

D.4.6 Record Keeping Requirements

To document the compliance status with Condition D.4.2, on and after January 1, 2015, the Permittee shall maintain the following records for each purchase of solvent used in the cold cleaner degreasing operations. These records shall be retained on-site or accessible electronically for the most recent three (3) year period and shall be reasonably accessible for an additional two (2) year period.

(a) The name and address of the solvent supplier.

(b) The date of purchase.

(c) The type of solvent purchased.

(d) The total volume of the solvent purchased.

(e) The true vapor pressure of the solvent measured in millimeters of mercury at twenty (20) degrees Celsius (sixty-eight (68) degrees Fahrenheit).

***

SECTION D.5 EMISSION UNIT OPERATION CONDITIONS

Emission Unit Description [326 IAC 2-7-5(14)]:

(t) One (1) production engine test cell, identified as HHP15, permitted in 2014, powered by diesel, biodiesel, or natural gas, with a maximum output of 9,000 hp, equipped with an in-stack duct burner, with maximum capacity of 5.0 MMBtu/hr, selective catalytic reduction (SCR) for the control of NOx emissions, an oxidation catalyst for the control of CO emissions, and exhausting to stack HHP15.1.

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

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

D.5.1 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]

(a) The total CO emissions from the engine test cell, HHP15, shall be less than 99 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

(b) The total NOx emissions from the engine test cell, HHP15, shall be less than 39 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

Compliance with these limits shall limit the CO and NOx emissions from the engine test cell (HHP15) to less than one hundred (100) tons per year and render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable to this 2014 modification.

D.5.2 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan is required for the engine test cell HHP15 and its control devices. Section B --Preventive Maintenance Plan contains the Permittee's obligation with regard to preventive maintenance plans.

Compliance Determination Requirements [326 IAC 2-7-5(1)][326 IAC 2-7-6(1)][40 CFR 64]

D.5.3 Carbon Monoxide (CO) Control

In order to ensure compliance with Condition D.5.1 (a), the CO emissions from each test cell shall be controlled with an oxidation catalyst (DOC). The tests cells may be operated without the DOC control system with emissions determined as specified in D.5.4.

D.5.4 Carbon Monoxide (CO) Emission Limit Determination

The Permittee shall determine actual CO emissions from HHP15 for each calendar month using the following equation:

**CO emissions = (Diesel fuel burned in tz1 by HHP15 x COEFtz1df) +
(Diesel fuel burned in tz2 by HHP15 x COEFtz2df) +
(Diesel fuel burned in tz3 by HHP15 x COEFtz3df)**

+

(Diesel fuel burned in HHP15 when DOC is not in operation x COEFepatestcells.df)

+

(Biodiesel fuel burned in tz1 by HHP15 x COEFtz1bd) +
(Biodiesel fuel burned in tz2 by HHP15 x COEFtz2bd) +
(Biodiesel fuel burned in tz3 by HHP15 x COEFtz3bd)

+

(Biodiesel fuel burned in HHP15 when DOC is not in operation x COEFepatestcells.bdf)

+

(Natural Gas burned in tz1 by HHP15 x COEFtz1ng) +
(Natural Gas burned in tz2 by HHP15 x COEFtz2ng) +
(Natural Gas burned in tz3 by HHP15 x COEFtz3ng)

+

(Natural Gas burned in HHP15 when DOC is not in operation x COEFepatestcells.ng)

+

(Natural Gas burned in the HHP15 duct burner x COEFepang)

Where:
tzx is the temperature range for the emission factor measured at the inlet of the DOC and where the temperature ranges for test engine HHP15 will be the same as test engine HHP1, HHP6 through HHP14

COEFtzx.xx is the measured CO emission factor determined from the most recent valid stack test for the temperature range x for fuel xx when DOC is operating

COEFepatestcells.df is the USEPA emission factor for the test cells burning diesel fuels - used when DOC is not operating

COEFepatestcelss.bdf is the USEPA emission factor for test cells burning biodiesel fuel - used when DOC is not operating

COEFepatestcells.ng is the USEPA emission factor for test cells burning natural gas - used when DOC is not operating

COEFepang is the USEPA CO emission factor for the duct burner burning natural gas (AP 42 4-1)

D.5.5 Nitrogen Oxide (NOx) Control

In order to ensure compliance with Condition D.5.1(b), the NOx emissions from HHP15 shall be controlled with selective catalytic reduction (SCR). HHP15 may be operated without the SCR control system with emissions reported as specified in D.5.6.

D.5.6 Nitrogen Oxide (NOx) Emission Limit Determination

The Permittee shall determine actual NOx emissions from HHP15 for each calendar month using the following equation:

NOx emissions = (Diesel fuel burned in tz1 by HHP15 x EFtz1df) +
(Diesel fuel burned in tz2 by HHP15 x EFtz2df) +
(Diesel fuel burned in tz3 by HHP15 x EFtz3df) +
(Diesel fuel burned in tz4 by HHP15 x EFtz4df) +
(Diesel fuel burned in tz5 by HHP15 x EFtz5df)+

(Diesel fuel burned in tz6 by HHP15 x EFtz6df) +
(Diesel fuel burned in tz7 by HHP15 x EFtz7df)

+

(Diesel fuel burned in HHP15 when SCR is not in operation x EFnocontrol.df)

+

(Biodiesel fuel burned in tz1 by HHP15 x EFtz1bd) +
(Biodiesel fuel burned in tz2 by HHP15 x EFtz2bd) +
(Biodiesel fuel burned in tz3 by HHP15 x EFtz3bd) +
(Biodiesel fuel burned in tz4 by HHP15 x EFtz4bd) +
(Biodiesel fuel burned in tz5 by HHP15 x EFtz5bd)+
(Biodiesel fuel burned in tz6 by HHP15 x EFtz6bd) +
(Biodiesel fuel burned in tz7 by HHP15 x EFtz7bd)

+

(Biodiesel fuel burned in HHP15 when SCR is not in operation x EFnocontrol.bdf)

+

(Natural Gas burned in tz1 by HHP15 x EFtz1ng) +
(Natural Gas burned in tz2 by HHP15 x EFtz2ng) +
(Natural Gas burned in tz3 by HHP15 x EFtz3ng) +
(Natural Gas burned in tz4 by HHP15 x EFtz4ng) +
(Natural Gas burned in tz5 by HHP15 x EFtz5ng)+
(Natural Gas burned in tz6 by HHP15 x EFtz6ng) +
(Natural Gas burned in tz7 by HHP15 x EFtz7ng)

+

(Natural Gas burned in HHP15 when SCR is not in operation x EFnocontrol.ng)

+

(Natural Gas burned in the HHP15 duct burner x EFepahiNOx)

Where:
tzx is the temperature range for the emission factor measured at the inlet of the SCR and where the temperature ranges for test engine HHP15 will be the same as test engine HHP1, HHP6 through HHP14

EFtzx.xx is the measured NOx emission factor determined from the most recent valid stack test for the temperature range x for fuel xx when SCR is operating

EFnocontrol.df is the emission factor for the test cells operating with no SCR control and burning diesel fuel

EFnocontrol.bdf is the emission factor for test cells operating with no SCR control and burning biodiesel fuel

EFnocontrol.ng is the emission factor for test cells operating with no SCR control and burning natural gas

EFepahi NOx is the USEPA NOx emission factor for uncontrolled natural gas duct burner (AP 42 4-1)

D.5.7 Testing Requirements [326 IAC 2-1.1-11]

(a) **In order to demonstrate compliance with Condition D.5.1(b) and within sixty (60) days of reaching maximum capacity but no later than one hundred and eighty (180) days after initial startup of the SCR, the Permittee shall conduct NOx emissions stack testing of the emissions from selective catalytic reduction (SCR) on HHP15 utilizing methods as approved by the commissioner. These tests shall be repeated at least once every five years from the date of the most recent valid compliance demonstration on a representative test cell. 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.**

(b) **In order to demonstrate compliance with Condition D.5.1(b) and within sixty (60) days of reaching maximum capacity but no later than one hundred and eighty (180) days after startup of the test cells, the Permittee shall conduct NOx emissions stack testing of the uncontrolled emissions from HHP15 utilizing methods as approved by the commissioner. This test shall be performed once. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures) or NRPD Air-14-NPD. Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.**

(c) **In order to demonstrate compliance with Condition D.5.1(a) and within sixty (60) days of reaching maximum capacity but no later than one hundred and eighty (180) days after initial startup of the catalytic oxidizer, the Permittee shall conduct CO emissions stack testing of the emissions from the catalytic oxidizer on HHP15 utilizing methods as approved by the commissioner. These tests shall be repeated at least once every five years from the date of the most recent valid compliance demonstration on a represetative test cell. 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 2-7-5(1)][326 IAC 2-7-6(1)]

D.5.8 Visible Emission Notations

(a) **Visible emissions notations of the engine test cell stack exhausts HHP15.1 shall be performed once per day during normal daylight operations when combusting diesel fuel or biodiesel. A trained employee will 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. Observation of abnormal emissions that do not violate an applicable opacity limit is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit. Section C -- Response to Excursions or Exceedances contains the Permittee's obligation with regard to response to excursions or exceedances.

D.5.9 SCR Parametric Monitoring

(a) In order to demonstrate compliance status with Condition D.5.1(b), the Permittee shall monitor the selective catalyst reduction (SCR) temperature and fuel used with a continuous fuel and temperature monitoring system. Fuel consumption will be recorded for each temperature zone tested in Condition D.5.7(a). The Permittee shall comply with the following:

(1) The test cell and SCR shall operate such that the temperature and fuel consumption will be monitored continuously. Failure of either the temperature or fuel monitoring system for more than three (3) hours will require reasonable response steps to be taken to return the system to normal operation. Failure to take response steps shall be considered as a deviation from the permit. Section C -- Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition.

(2) In order to demonstrate compliance with Condition D.5.1(b), the Permittee shall continuously monitor the urea flow rate used in conjunction with the test cell SCR. The urea flow rate will be compared to the corresponding inlet NO and NO_2 load and the SCR temperature based performance characteristics. If the urea flow rate does not correlate with that of the most recent stack test specified in Condition D.5.7(a), the Permittee shall take reasonable response steps. Failure to take response steps shall be considered as a deviation from the permit. Section C -- Response to Excursions or Exceedances contains the obligation with regard to the reasonable response steps required by this condition.

(b) The Permittee shall submit a compliance monitoring plan within 60 days after the permit is issued outlining the approach for demonstrating compliance with section 5.9(a).

(c) Section C -- Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Excursions defined in Section 5.9(a) requires reasonable response steps. Failure to take response steps shall be considered a deviation from this permit.

D.5.10 Oxidation Catalyst Parametric Monitoring [40 CFR 64]

(a) In order to demonstrate the compliance status with Condition D.5.1(a), the Permittee shall monitor the Diesel Oxidation Catalyst (DOC) temperature and fuel used by the test cell with a continuous fuel and temperature monitoring system. Fuel consumption will be recorded for each temperature zone tested in Condition D.5.7(c). For the purposes of this condition, continuous monitoring means recording the temperature no less often than every 15 minutes. The output of this system shall be recorded as a three (3) hour average. The Permittee shall comply with the following:

(1) The test cell and the DOC shall be operated such that the temperature will be monitored continuously. Failure of either the temperature or fuel monitoring system for more than three (3) hours will require reasonable response steps to be taken to return the system to normal operation. Failure to take response steps shall be considered as a deviation from the permit. Section C -- Response to Excursions or Exceedances contains the

Permittee's obligation with regard to the reasonable response steps required by this condition.

(2) In order to demonstrate compliance status with Conditions D.5.1(a), the Permittee shall monitor the performance characteristics of the DOC using a portable analyzer in accordance with an approved compliance monitoring plan identified in section D.5.10(b). If the performance characteristics of the DOC as measured by the portable analyzer do not correlate with those established during the most recent stack test specified in Condition D.5.7(c), the Permittee shall take reasonable response steps. Failure to take response steps shall be considered as a deviation from the permit. Section C -- Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition.

(b) The Permittee will submit a compliance monitoring plan within 60 days after the permit is issued outlining the approach for demonstrating compliance with section 5.10(a).

(c) Section C -- Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Excursions defined in Section 5.10(a) require reasonable response steps. Failure to take response steps shall be considered a deviation from this permit.

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

D.5.11 Record Keeping Requirements

(a) To document the compliance status with Condition D.5.1(a) and D.5.1(b), the Permittee shall maintain records in accordance with (1) and (2) below:

(1) Calendar dates covered in the compliance determination period; and

(2) Actual diesel, biodiesel fuel oil, and natural gas, usage since last compliance determination period and equivalent NOx and CO emissions.

The Permittee shall retain records of all recording/monitoring data and support information for a period of five (5) yeas, 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.5.8 - Visible Emission Notation, the Permittee shall maintain records of daily visible emission notations of the engine test cell stack exhausts HHP15.1 when combusting diesel fuel or biodiesel. 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) In order to document the compliance status with Condition D.5.9 the Permittee shall maintain records of the urea flow rate and the SCR temperature used in conjunction with the test cells. The Permittee shall include in its daily record when a flow rate and temperature reading are not taken and the reason for the lack of a flow rate and temperature reading (e.g. the process did not operate that day).

(d) In order to document the compliance status with Condition D.5.10, the Permittee shall maintain continuous temperature records (on a three (3) hourly average basis) for each oxidation catalyst to demonstrate compliance.

(e) Section C -- General Record Keeping Requirements contains the Permittee's obligation with regard to record keeping.

D.5.12 Reporting Requirements

A quarterly summary of the information to document the compliance status with condition D.5.1 shall be submitted using the reporting form located at the end of this permit, or their equivalent, not later than thirty (30) days following the end of each calendar quarter. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined in 326 IAC 2-7-1(34). Section C -- General Reporting Requirements contains the Permittee's obligations with regard to the reporting required by this condition.

***

Change: Upon further review of Section E.1, the test engine cells previously listed in Section E.1 are not subject to the provisions of 40 CFR Part 60, Subpart IIII, as defined in 40 CFR Part 60.4200(b) of Subpart IIII.

SECTION E.1 Standards of Performance for Stationary Compression Ignition Internal Combustion Engines [326 IAC 12] [40 CFR Part 60, Subpart IIII]

Emissions Unit Description:

~~(b) Six (6) production engine test cells, identified as EU-02A, constructed in 1978, consisting of the following equipment:~~

~~(1) Three (3) diesel-powered production engine test cells, identified as 801, 802, and 803, with maximum outputs of 1000, 1000 and 1650 hp respectively, with heat inputs of 6.41, 6.41 and 10.57 MMBtu/hr, respectively and exhausting to stacks 801.1 - 801.2, 802.1 - 802.2, and 803.1 and 803.2, respectively;~~

~~(2) Two (2) diesel-powered production engine test cells, identified as 804 and 805, with maximum outputs of 1650 hp, each, with heat input of 10.57 MMBtu/hr each and exhausting to stacks 804 and 805, respectively; and~~

~~(3) One (1) diesel-powered or natural gas-fired production engine test cell, identified as 808, with maximum output of 1650 hp when combusting diesel fuel or 600hp when combusting natural gas, with heat input of 10.57 MMBtu/hr when combusting diesel fuel or 4.1 MMBtu/hr when combusting natural gas and exhausting to stack 808.~~

~~(c) Ten (10) engineering engine test cells, identified as EU-02B, installed in 1978, consisting of the following equipment:~~

~~(1) Two (2) diesel or biodiesel-powered engineering engine test cells, identified as 806 and 807, may be alternatively powered by liquid propane or natural gas with maximum outputs of 1800 hp, each, when combusting diesel or biodiesel, or 1800hp, each, when combusting liquid propane or natural gas and exhausting to stacks 806 and 807, respectively;~~

~~(2) One (1) engineering test cell engine with duct burners, identified as HHP1, modified in 2011 powered by diesel, biodiesel natural gas, natural gas diluted with CO2, hydrogen or liquid propane with maximum output of 9000 hp, equipped with an in-stack duct burner, with maximum capacity of 2.0 MMbtu/hr, selective catalytic reduction for the control of NOx emissions, an oxidation catalyst for the control of CO emissions, and exhausting to stack HHP1.1;~~

~~(3) One (1) diesel or biodiesel-powered engineering engine test cell, identified as HHP2, with maximum output of 4500 hp when combusting diesel or biodiesel, with heat input of 28.82 MMBtu/hr and exhausting to stack HHP2;~~

~~(4) One (1) diesel or biodiesel-powered engineering engine test cell, identified as HHP3, may be alternatively powered by liquid propane or natural gas, with maximum output of 4500 hp when combusting diesel or biodiesel and 4500hp when combusting liquid propane or natural gas, with heat input of 28.82 MMBtu/hr when combusting diesel/biodiesel or liquid propane/natural gas and exhausting to stacks HHP3.1 and HHP3.2;~~

~~(5) One (1) diesel or biodiesel-powered engineering test cell, identified as HHP5, may be alternatively powered by liquid propane or natural gas, with output of 2200 hp when combusting diesel or biodiesel or 600 hp when combusting liquid propane or natural gas, with heat input of 14.09 MMBtu/hr when combusting diesel or biodiesel or 4.10 when combusting liquid propane or natural gas and exhausting to stack HHP5.1 - HHP5.2;~~

~~(6) One (1) diesel or biodiesel-powered engine test pad 8 (PI), identified as PI, may be alternatively powered by liquid propane or natural gas, with maximum outputs of 3000 hp when combusting diesel or biodiesel or 2200 hp when combusting liquid propane or natural gas, with heat input of 19.22 MMBtu/hr when combusting diesel or biodiesel and 14.40 MMBtu/hr when combusting liquid propane or natural gas and exhausting to stacks PD8.1 and PD8.2;~~

~~(7) Two (2) diesel or biodiesel-powered engine test pad 10(PI) and 11(PI), identified as PI, may be alternatively powered by liquid propane or natural gas, with maximum outputs of 1850, each, when combusting diesel, or biodiesel, or 1850 hp, each when combusting liquid propane or natural gas, with heat input of 11.85 MMBtu/hr, each, when combusting diesel, or biodiesel or 12.70 MMBtu/hr, each when combusting liquid propane or natural gas and exhausting to stacks PD10.1 and PD11.1; and~~

~~(8) One (1) diesel or biodiesel-powered engineering engine test cell, identified as HHP4, may be alternatively powered by liquid propane or natural gas, with a maximum output of 2200 hp when combusting diesel or biodiesel and 2200hp when combusting liquid propane or natural gas and a heat input of 14.09 MMBtu per hour when combusting diesel or biodiesel or 14.40 MMBtu/hr when combusting liquid propane or natural gas and exhausting to stacks HHP4.1 and HHP4.2.~~

~~(d) One (1) diesel or biodiesel-powered engineering engine test cell Test Pad 9, identified as EU-02C, installed in 2005, may be alternatively powered by liquid propane or natural gas, with maximum outputs of 4500 hp when combusting diesel or biodiese or 2200 hp when combusting liquid propane or natural gas, exhausting to stacks PD9.1 and PD9.2.~~

~~(e) One (1) engineering engine test cell, identified as HHP6, approved for construction in 2011, powered by diesel, biodiesel, natural gas, natural gas diluted with CO2, hydrogen or liquid propane with a maximum output of 9,000 hp, equipped to vent uncontrolled natural gas and liquid propane for a maximum time of 24 hours per year and equipped with an in-stack duct burner, with maximum capacity of 2.0 MMBtu/hr, selective catalytic reduction for the control of~~ ~~NO_X~~ ~~emissions, an oxidation catalyst for the control of CO emissions, and exhausting to stack HHP6.1.~~

~~(f) One (1) engineering engine test cell, identified as HHP7, approved for construction in 2011, powered by diesel, biodiesel, natural gas, natural gas diluted with CO2, hydrogen or liquid propane with a maximum output of 9,000 hp, equipped with an in-stack duct burner, with maximum capacity of 2.0 MMBtu/hr, selective catalytic reduction for the control of~~ ~~NO_X~~ ~~emissions, an oxidation catalyst for the control of CO emissions, and exhausting to stack HHP7.1.~~

~~(g) One (1) engineering engine test cell, identified as HHP8, approved for construction in 2011, powered by diesel, biodiesel, natural gas, natural gas diluted with CO2, hydrogen or liquid propane with a maximum output of 9,000 hp, equipped with an in-stack duct burner, with maximum capacity of 2.0 MMBtu/hr, selective catalytic reduction for the control of~~ ~~NO_X~~

~~emissions, an oxidation catalyst for the control of CO emissions, and exhausting to stack HHP8.1.~~

~~(h) One (1) engineering engine test cell, identified as HHP9, approved for construction in 2011, powered by diesel, biodiesel, natural gas, natural gas diluted with CO2, hydrogen or liquid propane with a maximum output of 9,000 hp, equipped with an in-stack duct burner, with maximum capacity of 2.0 MMBtu/hr, selective catalytic reduction for the control of~~ ~~NO_x~~ ~~emissions, an oxidation catalyst for the control of CO emissions, and exhausting to stack HHP9.1.~~

~~(i) One (1) engineering engine test cell, identified as HHP10, approved for construction in 2011, powered by diesel, biodiesel, natural gas, natural gas diluted with CO2, hydrogen or liquid propane with a maximum output of 9,000 hp, equipped to vent uncontrolled natural gas and liquid propane for a maximum time of 24 hours per year and equipped with an in-stack duct burner, with maximum capacity of 2.0 MMBtu/hr, selective catalytic reduction for the control of~~ ~~NO_x~~ ~~emissions, an oxidation catalyst for the control of CO emissions, and exhausting to stack HHP10.1.~~

~~(j) One (1) production engine test cell, identified as HHP11, approved for construction in 2011, powered by diesel, biodiesel, natural gas, natural gas diluted with CO2, hydrogen or liquid propane with a maximum output of 9,000 hp, equipped with an in-stack duct burner, with maximum capacity of 2.0 MMBtu/hr, selective catalytic reduction for the control of~~ ~~NO_x~~ ~~emissions, an oxidation catalyst for the control of CO emissions, and exhausting to stack HHP11.1.~~

~~(k) One (1) production engine test cell, identified as HHP12, approved for construction in 2011, powered by diesel, biodiesel, natural gas, natural gas diluted with CO2, hydrogen or liquid propane with a maximum output of 9,000 hp, equipped with an in-stack duct burner, with maximum capacity of 2.0 MMBtu/hr, selective catalytic reduction for the control of~~ ~~NO_x~~ ~~emissions, an oxidation catalyst for the control of CO emissions, and exhausting to stack HHP12.1.~~

~~(l) One (1) production engine test cell, identified as HHP13, approved for construction in 2011, powered by diesel, biodiesel, natural gas, natural gas diluted with CO2, hydrogen or liquid propane with a maximum output of 9,000 hp, equipped with an in-stack duct burner, with maximum capacity of 2.0 MMBtu/hr, selective catalytic reduction for the control of~~ ~~NO_x~~ ~~emissions, an oxidation catalyst for the control of CO emissions, and exhausting to stack HHP13.1.~~

~~(m) One (1) production engine test cell, identified as HHP14, approved for construction in 2011, powered by diesel, biodiesel, natural gas, natural gas diluted with CO2, hydrogen or liquid propane with a maximum output of 9,000 hp, equipped with an in-stack duct burner, with maximum capacity of 2.0 MMBtu/hr, selective catalytic reduction for the control of~~ ~~NO_x~~ ~~emissions, an oxidation catalyst for the control of CO emissions, and exhausting to stack HHP14.1.~~

(s) One (1) Hedgehog Block Line, approved for construction in 2013, and consisting of the following units:

(3) One (1) emergency diesel generator, identified as emergency generator, with a rating of 1482 hp, and exhausting outdoors;

(4) One (1) emergency diesel fire pump, identified as fire pump, with a rating of 175 hp, and exhausting outdoors;

Insignificant Activities:

(e) One (1) emergency diesel powered generator, permitted in 2012, with maximum capacity of 1,490 horse power.

Under 40 CFR 60, Subpart IIII, the emergency generator and engine test cells are affected sources.

(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) [40 CFR Part 60]

E.1.1 General Provisions Relating to NSPS [326 IAC 12] [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 the emergency generator and engine test cells described in this section except when otherwise specified in Table 8 to 40 CFR Part 60, Subpart IIII.

E.1.2 Standards of Performance for Stationary Compression Ignition Internal Combustion Engines [326 IAC 12] [40 CFR Part 60, Subpart IIII]

The Permittee shall comply with the following provisions of 40 CFR 60, Subpart IIII (Standards of Performance for Stationary Compression Ignition Internal Combustion Engines), which are included as Attachment B as specified as follows:

(a) The emergency generator is subject to the following portions of Subpart IIII:

(1) 40 CFR 60.4200(a)(2), (a)(3), and (d)
(2) 40 CFR 60.4205(b)
(3) 40 CFR 60.4206
(4) 40 CFR 60.4207(b)
(5) 40 CFR 60.4208
(6) 40 CFR 60.4209
(7) 40 CFR 60.4211(c)
(8) 40 CFR 60.4212
(9) 40 CFR 60.4214(b) and (c)
(10) 40 CFR 60.4218
(11) 40 CFR 60.4219
(12) Table 2 to Subpart IIII
(13) Table 5 to Subpart IIII
(14) Table 8 to Subpart IIII

~~(b) The engine test cells are subject to the following portions of Subpart IIII:~~

~~(1) 40 CFR 60.4200(a)(1), (b), and (d)~~
~~(2) 40 CFR 60.4201~~
~~(3) 40 CFR 60.4202~~
~~(4) 40 CFR 60.4203~~
~~(5) 40 CFR 60.4210~~
~~(6) 40 CFR 60.4218~~
~~(7) 40 CFR 60.4219~~
~~(8) Table 1 to Subpart IIII~~
~~(9) Table 2 to Subpart IIII~~
~~(10) Table 3 to Subpart IIII~~
~~(11) Table 4 to Subpart IIII~~
~~(12) Table 5 to Subpart IIII~~
~~(13) Table 6 to Subpart IIII~~
~~(14) Table 7 to Subpart IIII~~
~~(15) Table 8 to Subpart IIII~~

(~~c~~**b**) The emergency generator to the Hedgehog block line is subject to the following portions of Subpart IIII.

(1) 40 CFR 60.4200(a)(2), and (d)
(2) 40 CFR 60.4205(b)
(3) 40 CFR 60.4206
(4) 40 CFR 60.4207(b)
(5) 40 CFR 60.4208
(6) 40 CFR 60.4209
(7) 40 CFR 60.4211(a), (c), (f), and (g)
(8) 40 CFR 60.4212
(9) 40 CFR 60.4214(b), (c), and (d)
(10) 40 CFR 60.4218
(11) 40 CFR 60.4219
(12) Table 5 to Subpart IIII
(13) Table 8 to Subpart IIII

(~~d~~**c**) The fire pump engine is subject to the following portions of Subpart IIII.

(1) 40 CFR 60.4200(a)(2), and (d)
(2) 40 CFR 60.4205(c)
(3) 40 CFR 60.4206
(4) 40 CFR 60.4207(b)
(5) 40 CFR 60.4208
(6) 40 CFR 60.4209
(7) 40 CFR 60.4211(a), (c), (f), and (g)
(8) 40 CFR 60.4212
(9) 40 CFR 60.4214(b), (c), and (d)
(10) 40 CFR 60.4218
(11) 40 CFR 60.4219
(12) Table 3 to Subpart IIII
(12) Table 4 to Subpart IIII
(13) Table 8 to Subpart IIII

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

Part 70 Quarterly Report

Source Name: **Cummins Inc., Seymour Engine Plant (SEP)**
Source Address: **800 East Third Street, Seymour, Indiana 47274**
Part 70 Permit Renewal No.: **T 071-30358-00015**
Facility: **One (1) engine test cell HHP15, one (1) duct burner,**
Parameter: **NOx Emissions**
Limit: **Shall not exceed 39 tons per twelve (12) consecutive month period.**

YEAR: ______

Month	Total NOx Emissions for This Month (tons)	Total NOx Emissions for Previous 11 Months (tons)	Total NOx Emissions for 12-Month Period (tons)

☐ **No deviation occurred in this quarter.**

☐ **Deviations occurred in this quarter.**
Deviation has been reported on: ____________________

Submitted By: ____________________

Title/Position: ____________________

Signature: ____________________

Date: ____________________

Phone: ____________________

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

Part 70 Quarterly Report

Source Name: **Cummins Inc., Seymour Engine Plant (SEP)**
Source Address: **800 East Third Street, Seymour, Indiana 47274**
Part 70 Permit Renewal No.: **T 071-30358-00015**
Facility: **HHP15**
Parameter: **CO Emissions**
Limit: **Shall not exceed 99 tons per twelve (12) consecutive month period.**

YEAR: _____

Month	CO Emissions for This Month (tons)	CO Emissions for Previous 11 Months(tons)	CO Emissions for 12-Month Period (tons)

☐ **No deviation occurred in this quarter.**

☐ **Deviations 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

Part 70 Quarterly Report

Source Name: Cummins Inc., Seymour Engine Plant (SEP)
Source Address: 800 East Third Street, Seymour, Indiana 47274
Part 70 Permit Renewal No.: T 071-30358-00015
Facility: ~~Twenty-five~~ **Twenty-seven (27)** test cells, Paint spray line booth**, 1490 hp** emergency generator and natural gas combustion equipments
Parameter: Single HAP Emissions
Limit: Less than 9.5 tons per year for any single HAP per twelve (12) consecutive month period

YEAR: ______

Month	**Single HAP Emissions for This Month** (tons)	**Single HAP Emissions for Previous 11 Months** (tons)	**Single HAP Emissions for 12-Month Period** (tons)

☐ No deviation occurred in this quarter.

☐ Deviations 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

Part 70 Quarterly Report

Source Name: Cummins Inc., Seymour Engine Plant (SEP)
Source Address: 800 East Third Street, Seymour, Indiana 47274
Part 70 Permit Renewal No.: T 071-30358-00015
Facility: ~~Twenty-five~~ **Twenty-seven** test cells, Paint spray line booth, **1490 hp** emergency generator and natural gas combustion equipments
Parameter: Total HAP Emissions
Limit: Less than 24 tons per year for total HAPs per twelve (12) consecutive month period

YEAR: _____

Month	Total HAP Emissions for This Month (tons)	Total HAP Emissions for Previous 11 Months (tons)	Total HAP Emissions for 12-Month Period (tons)

☐ No deviation occurred in this quarter.

☐ Deviations occurred in this quarter.
Deviation has been reported on: ____________________

Submitted By: ________________________________

Title/Position: ________________________________

Signature: ________________________________

Date: ________________________________

Phone: ________________________________

***

Conclusion and Recommendation

The construction of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Source Modification No. 071-33555-00015 and Significant Permit Modification. The staff recommends to the Commissioner that this Part 70 Significant Source and Significant Permit Modification be approved.

IDEM Contact

(a) Questions regarding this proposed permit can be directed to Deena Patton 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) 234-5400 or toll free at 1-800-451-6027 extension 4-5400.

(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.idem.in.gov

Appendix A: Emission Calculations
Potential to Emit Summary

Company Name: Cummins Inc. (Seymour Engine Plant)
Address City IN Zip: 800 E. Third Street
Operating Permit Number: 071-30358-00015
Significant Source Mod. No: 071-33555-00015
Significant Permit Mod. No: 071-33585-00015
Reviewer: Deena Patton

Uncontrolled Potential to Emit After Modification (ton/yr)											
Emission Unit/ID	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**NO_x**	**VOC**	**CO**	**GHGs**	**HAPs**	**Worst Single HAP**	
Test Cell HHP15 and SCR duct burner	7.52	7.12	6.86	0.20	494.18	14.35	104.36	22427.34	9.82	6.37	Formaldehyde
Total	**7.52**	**7.12**	**6.86**	**0.20**	**494.18**	**14.35**	**104.36**	**22427.34**	**9.82**	**6.37**	**Formaldehyde**

Limited Potential to Emit After Modification (ton/yr)											
Emission Unit/ID	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**NO_x**	**VOC**	**CO**	**GHGs**	**HAPs**	**Worst Single HAP**	
Test Cell HHP15 and SCR duct burner	7.52	7.12	6.86	0.20	39.00	14.35	99.00	22427.34	9.82	6.37	Formaldehyde
Total	**7.52**	**7.12**	**6.86**	**0.20**	**39.00**	**14.35**	**99.00**	**22427.34**	**9.82**	**6.37**	**Formaldehyde**

Uncontrolled Potential to Emit (ton/yr)											
Emission Unit/ID	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**NO_x**	**VOC**	**CO**	**GHGs**	**HAPs**	**Worst Single HAP**	
Test Cell HHP15 and SCR Duct Burner	7.52	7.12	6.86	0.20	494.18	14.35	104.36	22427.34	9.82	6.37	Formaldehyde
Engine Test Cells	69.36	64.47	62.02	323.97	2,451.82	514.37	1,061	72,551,184	9.01	9.01	Formaldehyde
Paint Spray Line (EU-01)	191.01	191.01	191.01	-	-	159.42	-	-	116.77	116.53	Glycol Ethers
Test Cell HHP1, HHP6 through HHP14	74.76	69.10	67.05	4.64	7379.89	1099.85	1709.41	358,531	1.76	0.94	Formaldehyde
N.G. Combustion associated with D.2	0.33	1.31	1.31	0.10	17.20	0.95	14.45	20,768	0.32	0.31	Hexane
Boilers	0.30	1.19	1.19	0.09	15.63	0.86	13.13	18,871	0.29	0.28	Hexane
Low Nox Boilers	0.24	0.95	0.95	0.07	6.23	0.68	10.46	15,034	0.24	0.22	Hexane
Emergency Generator 1490 HP	0.26	0.15	0.15	1.51	8.94	0.26	2.05	433.67	0.00	0.00	Benzene
Duct Burners (HHP1, HHP6 through HHP14)	0.16	0.65	0.65	0.05	8.59	0.47	7.21	10,369	0.16	0.15	Hexane
HH Block Maching & Washing	4.19	4.19	4.19	-	-	5.83	-	-	-	-	-
Fire Pump and HH Block Line Emergency Generator	0.09	0.09	0.09	0.13	3.70	0.16	0.54	441.59	0.00	0.00	-
Natural Gas Combustion	0.15	0.58	0.58	0.05	7.68	0.42	6.45	9274.71	0.14	0.14	Hexane
Paved Roads	0.19	0.04	0.01	-	-	-	-	-	-	-	-
Total	**348.36**	**340.80**	**336.04**	**330.82**	**10,393.86**	**1,797.64**	**2,928.94**	**73,007,333.63**	**138.52**	**116.53**	**Glycol Ethers**

Controlled/Limited Potential to Emit After Issuance (ton/yr)											
Emission Unit/ID	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**NO_x**	**VOC**	**CO**	**GHGs**	**HAPs**	**Worst Single HAP**	
Test Cell HHP15 and SCR Duct Burner	7.52	7.12	6.86	0.20	39	14.35	99	22,427.34	23.99	9.5	Formaldehyde
Engine Test Cells	69.36	64.47	62.02	323.97	217.9	163.56	183.62	99,000.00			Glycol Ethers
Paint Spray Line (EU-01)	1.65	1.65	1.65	-	-	248	-	-			
Test Cell HHP1, HHP6 through HHP14	74.76	69.10	67.05	4.64	243		243	89,999.00			
N.G. Combustion associated with D.2	0.33	1.31	1.31	0.10							Hexane
Boilers	0.04	0.14	0.14	0.01							Hexane
Low Nox Boilers	0.03	0.11	0.11	0.01							Hexane
Emergency Generator 1490 HP	0.26	0.15	0.15	1.51							Benzene
Duct Burners (HHP1, HHP6 through HHP14)	0.16	0.65	0.65	0.05			7.21				Hexane
HH Block Maching & Washing	0.11	0.11	0.11	-	-	5.83	-	-	-	-	-
Fire Pump & HH Block Line Emergency Generator	0.09	0.09	0.09	0.13	3.70	0.16	0.54	4.42E+02	0.00	0.00	-
Natural Gas Combustion	0.15	0.58	0.58	0.00	7.68	0.42	6.45	9,275	0.14	0.14	Hexane
Paved Roads	0.17	0.03	0.01	-	-	-	-	-	-	-	-
Total	**154.63**	**145.51**	**140.73**	**330.62**	**511.28**	**432.32**	**539.83**	**221,142.64**	**24.13**	**9.5**	**Glycol Ethers**

Appendix A: Emission Calculations
Potential to Emit Summary Test Cell HHP 15/ Duct Burner All Fuel Types

Company Name: **Cummins Inc. (Seymour Engine Plant)**
Address City IN Zip: **800 E. Third Street**
Operating Permit Number: **071-30358-00015**
Significant Source Mod. No: **071-33555-00015**
Significant Permit Mod. No: **071-33585-00015**
Reviewer: **Deena Patton**

Pollutant	Test Cell HHP15 Fuel Alternatives (Excludes Duct Burner emissions) Max alternative in ***bold/italics***				Duct Burner unlimited PTE (ton/yr)	Total unlimited PTE (ton/yr)	Limited PTE (ton/yr)	Control Effciency (%)
	Diesel	Biodiesel	Natural gas	Highest				95%
Criteria pollutants								
CO	***102.52***	***102.52***	67.17	102.52	1.84	104.36	99	5.13
NOx	281.60	298.32	***491.99***	491.99	2.19	494.18	39	24.60
PM	***7.48***	***7.48***	0.01	7.48	0.04	7.52	none needed	
PM10	***6.95***	***6.95***	1.20	6.95	0.17	7.12	none needed	
PM2.5	***6.69***	***6.69***	1.20	6.69	0.17	6.86	none needed	
SO2	***0.19***	***0.19***	0.01	0.19	0.01	0.20	none needed	
VOC	10.82	10.82	***14.23***	14.23	0.12	14.35	none needed	
Hazardous Air Pollutants								
Organic HAPs								
Acetaldehyde	0.00	0.00	***1.04***	1.04	0.00	1.04	none needed	
Acrolein	0.00	0.00	***0.62***	0.62	0.00	0.62	none needed	
Benzene	***0.09***	***0.09***	0.05	0.09	0.00	0.09	none needed	
Dichlorbenzene	***0.00***	***0.00***	***0.00***	0.00	0.00	0.00	none needed	
Formaldehyde	0.01	0.01	***6.37***	6.37	0.00	6.37	none needed	
Hexane	0.00	0.00	***1.33***	1.33	0.04	1.37	none needed	
Methanol	0.02	0.02	***0.30***	0.30	0.00	0.30	none needed	
Toluene	0.03	0.03	***0.05***	0.05	0.00	0.05	none needed	
Xylene	***0.02***	***0.02***	***0.02***	0.02	0.00	0.02	none needed	
Metal HAPs								
Cadmium	0.00	0.00	0.00	0.00	0.00	0.00	none needed	
Chromium	0.00	0.00	0.00	0.00	0.00	0.00	none needed	
Nickel	0.00	0.00	0.00	0.00	0.00	0.00	none needed	
Manganese	0.00	0.00	0.00	0.00	0.00	0.00	none needed	
Lead	0.00	0.00	0.00	0.00	0.00	0.00	none needed	
Total HAPs	0.17	0.17	***9.78***	9.78	0.04	9.82	**none needed**	
Greenhouse Gases								
CO2	19,800.00	19,800.00	14,095.36	19,800.00	2559.89	22359.89		
N2O	0.16	0.16	0.03	0.16	0.00	0.16		
CH4	0.80	0.80	0.27	0.80	0.05	0.85		
Total GHGs as CO2e	***19,866.40***	***19,866.40***	14,110.33	19,866.40	2560.94	22427.34	**none needed**	

Appendix A: Emission Calculations
Potential to Emit Summary Test Cell HHP 15/ Duct Burner
Diesel Fuel
Company Name: Cummins Inc. (Seymour Engine Plant)
Address City IN Zip: 800 E. Third Street
Permit Number: 071-33555-00015
Significant Source Mod. No: 071-33555-00015
Significant Permit Mod. No: 071-33585-00015
Reviewer: Deena Patton

Maximum engine capacity	9,000 hp
Maximum fuel usage	1,760,000 gallon/yr
Duct burner capacity	5 MMBtu/hr
Maximum natural gas usage	0.005 mmcf/hr

Pollutant	Test Cell HHP 15 Emission factor (lb/gallon)	Test Cell HHP 15 Unlimited PTE (ton/yr)	Duct Burner Emission factor (lb/mmcf)	Duct Burner Unlimited PTE (ton/yr)	Total Unlimited PTE (ton/yr)	Limited PTE (ton/yr)
Criteria pollutants						
CO	0.1165	102.52	84	1.84	104.36	99
NOx	0.32	281.60	100	2.19	283.79	39
PM	0.0085	7.48	1.9	0.04	7.52	none needed
PM10	0.0079	6.95	7.60	0.17	7.12	none needed
PM2.5	0.0076	6.69	7.60	0.17	6.86	none needed
SO2	0.000213	0.19	0.60	0.01	0.20	none needed
VOC	0.0123	10.82	5.50	0.12	10.94	none needed
Hazardous Air Pollutants						
Organic HAPs						
Acetaldehyde	n/a	0.00	n/a	0.00	0.00	none needed
Acrolein	n/a	0.00	n/a	0.00	0.00	none needed
Benzene	0.000106	0.09	0.00210	0.00	0.09	none needed
Dichlorbenzene	n/a	0.00	0.00120	0.00	0.00	none needed
Formaldehyde	0.000011	0.01	0.07500	0.00	0.01	none needed
Hexane	n/a	0.00	1.80000	0.04	0.04	none needed
Napthalene	0.000018	0.02	0.00061	0.00	0.02	none needed
Toluene	0.000039	0.03	0.00340	0.00	0.03	none needed
Xylene	0.000026	0.02	n/a	0.00	0.02	none needed
Metal HAPs						
Cadmium	n/a	0.00	0.00130	0.00	0.00	none needed
Chromium	n/a	0.00	0.00140	0.00	0.00	none needed
Nickel	n/a	0.00	0.00210	0.00	0.00	none needed
Manganese	n/a	0.00	0.00038	0.00	0.00	none needed
Lead	n/a	0.00	0.00050	0.00	0.00	none needed
Total HAPs		**0.17**		**0.04**	**0.21**	**none needed**
Greenhouse Gases						
CO2	22.50	19,800.00	116,890.00	2,559.89	22,359.89	
N2O	0.000183	0.16	0.22	0.00	0.16	
CH4	0.000913	0.80	2.20	0.05	0.85	
Total GHGs as CO2e		**19,866.40**		**2,560.94**	**22,427.34**	**none needed**

Assumptions and references for Test Cell HHP15 emissions
Assumed fuel usage greatly exceeds fuel usage for a production test cell based on historical utilization of test cells
CO and VOC emission factors from AP-42, Chapter 3, Section 4, Table 3.4-1
NOx emission factor based on preliminary design and expected testing regiment; actual emissions will be lower due to SCR controls
PM, PM10, and PM2.5 emission factors from AP-42, Chapter 3, Section 4, Table 3.4-2
PM factor is total filterable particulate, PM10 factor is <10u filterable + condensable, and PM2.5 factor is <3u filterable + condensable
SO2 emission factor based on 15 ppm sulfur content in diesel fuel and 100% conversion to SO2
HAP emission factors from AP-42, Chapter 3, Section 4, Tables 3.4-3 and 3.4-4 (top 5 compounds)
GHG emission factors from 40 CFR 98 Subpart C (Tables C-1, C-2)
Emission factors converted from lb/MMBtu to lb/gallon by assuming heating value of 137,030 Btu/gallon
Methodology: Maximum fuel usage (gal/yr) * emission factor (lb/gal) * ton/2000 lb = ton/y

Assumptions and references for Duct burner emissions
Criteria pollutant emission factors from AP-42, Chapter 1, Section 4, Tables 1.4-1 and 1.4-2
Organic HAP emission factors from AP-42, Chapter 1, Section 4, Table 1.4-3 (top 5 compounds to napthalene
Metal HAP emission factors from AP-42, Chapter 1, Section 4, Table 1.4-4 (top 5 compounds)
GHG emission factors from 40 CFR 98.33
Methodology: 0.005 mmcf/hr fuel capacity * emission factor (lb/mmcf) * 8760 hr/yr * ton/2000 lb = ton/y

Appendix A: Emission Calculations
Potential to Emit Summary Test Cell HHP 15/ Duct Burner
Biodiesel Fuel

Company Name: Cummins Inc. (Seymour Engine Plant)
Address City IN Zip: 800 E. Third Street
Permit Number: 071-33555-00015
Significant Source Mod. No: 071-33555-00015
Significant Permit Mod. No: 071-33585-00015
Reviewer: Deena Patton

Maximum engine capacity	9,000	hp
Maximum fuel usage	1,760,000	gallon/yr
Duct burner capacity	5	MMBtu/hr
Maximum natural gas usage	0.005	mmcf/hr

Pollutant	Test Cell HHP 15 Emission factor (lb/gallon)	Test Cell HHP 15 Unlimited PTE (ton/yr)	Duct Burner Emission factor (lb/mmcf)	Duct Burner Unlimited PTE (ton/yr)	Total Unlimited PTE (ton/yr)	Limited PTE (ton/yr)
Criteria pollutants						
CO	0.1165	102.52	84	1.84	104.36	99
NOx	0.339	298.32	100	2.19	300.51	39
PM	0.0085	7.48	1.9	0.04	7.52	none needed
PM10	0.0079	6.95	7.60	0.17	7.12	none needed
PM2.5	0.0076	6.69	7.60	0.17	6.86	none needed
SO2	0.000213	0.19	0.60	0.01	0.20	none needed
VOC	0.0123	10.82	5.50	0.12	10.94	none needed
Hazardous Air Pollutants						
Organic HAPs						
Acetaldehyde	n/a	0.00	n/a	0.00	0.00	none needed
Acrolein	n/a	0.00	n/a	0.00	0.00	none needed
Benzene	0.000106	0.09	0.00210	0.00	0.09	none needed
Dichlorbenzene	n/a	0.00	0.00120	0.00	0.00	none needed
Formaldehyde	0.000011	0.01	0.07500	0.00	0.01	none needed
Hexane	n/a	0.00	1.80000	0.04	0.04	none needed
Napthalene	0.000018	0.02	0.00061	0.00	0.02	none needed
Toluene	0.000039	0.03	0.00340	0.00	0.03	none needed
Xylene	0.000026	0.02	n/a	0.00	0.02	none needed
Metal HAPs						
Cadmium	n/a	0.00	0.00130	0.00	0.00	none needed
Chromium	n/a	0.00	0.00140	0.00	0.00	none needed
Nickel	n/a	0.00	0.00210	0.00	0.00	none needed
Manganese	n/a	0.00	0.00038	0.00	0.00	none needed
Lead	n/a	0.00	0.00050	0.00	0.00	none needed
Total HAPs		**0.17**		**0.04**	**0.21**	**none needed**
Greenhouse Gases						
CO2	22.50	19,800.00	116,890.00	2,559.89	22,359.89	
N2O	0.000183	0.16	0.22	0.00	0.16	
CH4	0.000913	0.80	2.20	0.05	0.85	
Total GHGs as CO2e		**19,866.40**		**2,560.94**	**22,427.34**	**none needed**

Assumptions and references for Test Cell HHP15 emissions
Assumed fuel usage greatly exceeds fuel usage for a production test cell based on historical utilization of test cell
CO and VOC emission factors from AP-42, Chapter 3, Section 4, Table 3.4-1
NOx emission factor based on preliminary design and expected testing regiment; actual emissions will be lower due to SCR control
PM, PM10, and PM2.5 emission factors from AP-42, Chapter 3, Section 4, Table 3.4-2
PM factor is total filterable particulate, PM10 factor is <10u filterable + condensable, and PM2.5 factor is <3u filterable + condensabl
SO2 emission factor based on 15 ppm sulfur content in diesel fuel and 100% conversion to SO2
HAP emission factors from AP-42, Chapter 3, Section 4, Tables 3.4-3 and 3.4-4 (top 5 compounds)
GHG emission factors from 40 CFR 98 Subpart C (Tables C-1, C-2)
Emission factors converted from lb/MMBtu to lb/gallon by assuming heating value of 137,030 Btu/gallon
Methodology: Maximum fuel usage (gal/yr) * emission factor (lb/gal) * ton/2000 lb = ton/y

Assumptions and references for Duct burner emissions
Criteria pollutant emission factors from AP-42, Chapter 1, Section 4, Tables 1.4-1 and 1.4-2
Organic HAP emission factors from AP-42, Chapter 1, Section 4, Table 1.4-3 (top 5 compounds to napthalene
Metal HAP emission factors from AP-42, Chapter 1, Section 4, Table 1.4-4 (top 5 compounds)
GHG emission factors from 40 CFR 98.33
Methodology: 0.005 mmcf/hr fuel capacity * emission factor (lb/mmcf) * 8760 hr/yr * ton/2000 lb = ton/y

Appendix A: Emission Calculations
Potential to Emit Summary Test Cell HHP 15/ Duct Burner
Natural Gas
Company Name: Cummins Inc. (Seymour Engine Plant)
Address City IN Zip: 800 E. Third Street
Permit Number: 071-33555-00015
Significant Source Mod. No: 071-33555-00015
Significant Permit Mod. No: 071-33585-00015
Reviewer: Deena Patton

Maximum engine capacity	9,000	hp
Maximum heat input	241,173	MMBtu/yr
Duct burner capacity	5	MMBtu/hr
Maximum natural gas usage	0.005	mmcf/hr

Pollutant	Test Cell HHP 15		Duct Burner		Total Unlimited PTE (ton/yr)	Limited PTE (ton/yr)
	Emission factor (lb/MMBtu)	Unlimited PTE (ton/yr)	Emission factor (lb/mmcf)	Unlimited PTE (ton/yr)		
Criteria pollutants						
CO	0.557	67.17	84	1.84	69.01	99
NOx	4.08	491.99	100	2.19	494.18	39
PM	0.000077	0.01	1.9	0.04	0.05	none needed
PM10	0.009987	1.20	7.60	0.17	1.37	none needed
PM2.5	0.009987	1.20	7.60	0.17	1.37	none needed
SO2	0.0000588	0.01	0.60	0.01	0.02	none needed
VOC	0.118	14.23	5.50	0.12	14.35	none needed
Hazardous Air Pollutants						
Organic HAPs						
Acetaldehyde	0.0086	1.04	n/a	0.00	1.04	none needed
Acrolein	0.00514	0.62	n/a	0.00	0.62	none needed
Benzene	0.00044	0.05	0.00210	0.00	0.05	none needed
Dichlorbenzene	n/a	0.00	0.00120	0.00	0.00	none needed
Formaldehyde	0.0528	6.37	0.07500	0.00	6.37	none needed
Hexane	0.011	1.33	1.80000	0.04	1.37	none needed
Methanol	0.0025	0.30	n/a	0.00	0.30	none needed
Toluene	0.000408	0.05	0.00340	0.00	0.05	none needed
Xylene	0.00018	0.02	n/a	0.00	0.02	none needed
Metal HAPs						
Cadmium	n/a	0.00	0.00130	0.00	0.00	none needed
Chromium	n/a	0.00	0.00140	0.00	0.00	none needed
Nickel	n/a	0.00	0.00210	0.00	0.00	none needed
Manganese	n/a	0.00	0.00038	0.00	0.00	none needed
Lead	n/a	0.00	0.00050	0.00	0.00	none needed
Total HAPs		**9.78**		**0.04**	**9.82**	**none needed**
Greenhouse Gases						
CO2	116.89	14,095.36	116,890.00	2,559.89	16,655.25	
N2O	0.000220	0.03	0.22	0.00	0.03	
CH4	0.002200	0.27	2.20	0.05	0.32	
Total GHGs as CO2e		**14,110.33**		**2,560.94**	**16,671.27**	**none needed**

<u>Assumptions and references for Test Cell HHP15 emissions</u>
Assumed fuel usage greatly exceeds fuel usage for a production test cell based on historical utilization of test cells
Heat input rate based on equivalent to diesel fuel usage converted to heat input - 1,760,000 gal/yr * .13703 MMBtu/gal = 241,173 MMBtu/yr
Criteria pollutant emissions from AP-42 Chapter 3, Section 2, Table 3.2-2 - uncontrolled emission factors for 4-stroke-lean burn engines
NOx emission factor based on preliminary design and expected testing regiment; actual emissions will be lower due to SCR controls
PM, PM10, and PM2.5 emission factors from AP-42, Chapter 3, Section 2, Table 3.2-2
PM factor is filterable particulate, PM10 factor is <10u filterable + condensable, and PM2.5 factor is <2.5u filterable + condensable
HAP emission factors from AP-42, Chapter 3, Section 2, Table 3.4-2 and 3.4-4 (top 5 compounds)
GHG emission factors from 40 CFR 98 Subpart C (Tables C-1, C-2)
Methodology: Maximum heat input (MMBtu/yr) * emission factor (lb/MMBtu) * ton/2000 lb = ton/yr

<u>Assumptions and references for Duct burner emissions</u>
Criteria pollutant emission factors from AP-42, Chapter 1, Section 4, Tables 1.4-1 and 1.4-2
Organic HAP emission factors from AP-42, Chapter 1, Section 4, Table 1.4-3 (top 5 compounds to napthalene)
Metal HAP emission factors from AP-42, Chapter 1, Section 4, Table 1.4-4 (top 5 compounds)
GHG emission factors from 40 CFR 98.33
Methodology: 0.005 mmcf/hr fuel capacity * emission factor (lb/mmcf) * 8760 hr/yr * ton/2000 lb = ton/yr

Appendix A: Emission Calculations
Potential to Emit VOCs and Particulate from Paint Spray Line (EU-01)

Company Name: Cummins Inc. (Seymour Engine Plant)
Address City IN Zip: 800 E. Third Street
Operating Permit Number: 071-30358-00015
Significant Source Mod. No: 071-33555-00015
Significant Permit Mod. No: 071-33585-00015
Reviewer: Deena Patton

Potential to Emit for Paint Booths

Material[1]	Density[1] (lb/gal)	Weight % Volatile[1] (H_2O & Organics)	Weight % Water[1]	Weight % Organics[1]	Volume % Water[1]	Volume % Non-Vol[1] (solids)	Material Usage[2] (gal/unit)	Maximum Throughput[2] (unit/hour)	VOC Content[1] lb/gal of coating less water	VOL Content lb/gal of coating	Potential Per Booth VOC (lbs/hr)	Potential Per Booth VOC (lbs/day)	Potential Per Booth VOC (t/yr)	Potential Per Booth PM (t/yr)	VOC Content per vol. Solids lb/gal solids	Trans. Eff. (%)
(2 Topcoat & 1 Offline Booth)																
91 Beige Aqua-Zen Primer (06532TWP)	10.24	53.96%	35.88%	18.08%	43.24%	33.36%	1.50	3	3.50	1.85	8.33	199.95	36.49	**46.46**	5.55	50%
Natural Yellow Aqua-Zen Gloss Enamel (09631YWA)	9.13	65.50%	45.44%	20.06%	48.73%	27.36%	1.50	3	3.50	1.83	8.24	197.80	36.10	31.04	6.69	50%
91 Beige Semi-Gloss Aqua-Zen Gloss Enamel (09677TWA-1)	9.85	59.93%	41.06%	18.87%	47.56%	29.13%	1.50	3	3.47	1.86	8.36	200.74	36.63	38.90	6.38	50%
Euclid Green Aqua-Zen Gloss Enamel (09727GWA)	9.18	67.64%	51.81%	15.83%	55.89%	26.08%	1.50	3	3.50	1.45	6.54	156.94	28.64	29.28	5.57	50%
91 Marine Gray Aqua-Zen Gloss Enamel (09790AWA-1)	10.10	56.63%	37.15%	19.48%	44.15%	31.16%	1.50	3	3.50	1.97	**8.85**	**212.49**	**38.78**	43.17	6.31	50%
Onan Green Aqua-Zen Gloss Enamel (09799GWA)	9.35	65.05%	48.16%	16.89%	52.88%	27.47%	1.50	3	3.50	1.58	7.11	170.56	31.13	32.20	5.75	50%
94 Titanium Black Aqua-Zen Gloss Enamel (09994KWA-1)	8.92	70.98%	54.14%	16.84%	56.65%	23.93%	1.50	3	3.39	1.50	6.76	162.23	29.61	25.51	6.28	50%
Rotary Drill Beige Aqua-Zen Gloss Enamel (10032TWA)	9.81	57.67%	38.16%	19.51%	44.02%	31.30%	1.50	3	3.50	1.91	8.61	206.70	37.72	40.92	6.11	50%
60 Red Aqua-Zen Gloss Engine Enamel (16663RWA-1)	8.75	71.77%	53.41%	18.36%	54.84%	24.38%	1.50	3	3.48	1.61	7.23	173.50	31.66	24.34	6.59	50%
Taxi Yellow Aqua-Zen Gloss Enamel (17168NWA)	8.77	70.84%	53.15%	17.69%	54.77%	25.25%	1.50	3	3.50	1.55	6.98	167.55	30.58	25.20	6.14	50%
Suede Grey Aqua-Zen Enamel (18134AWA)	9.82	59.07%	39.22%	19.85%	45.38%	30.24%	1.50	3	3.50	1.95	8.77	210.52	38.42	39.61	6.45	50%
Frank Mohn Fusa Aqua-Zen Gloss Enamel (18938GWA)	10.15	55.43%	36.13%	19.30%	43.24%	32.18%	1.50	3	3.50	1.96	8.82	211.57	38.61	44.58	6.09	50%
										Worst Case Coating:	**8.85**	**212.49**	**38.78**	**46.46**		

[1]Information obtained from client-provided Technical Bulletins unless otherwise noted; see 8/10/2011 email from S. Thompkins to D. Dempsey. Note that density is the high-end of the given range.
[2]Information obtained from client; see 8/10/2011 from S. Thompkins to D. Dempsey

	VOC (lbs/hr)	VOC (lbs/day)	VOC (t/yr)	PM (t/yr)
Total Potential Emissions (worst case coating) from all 3 booths:	**26.56**	**637.46**	**116.34**	**139.38**

Dry Filter PM Control Efficiency = **99.0%**
Total Controlled Particulate Emissions (worst case coating) from EU-01: **1.39**

Material[1]	Density[1] (lb/gal)	Weight % Volatile[1] (H_2O & Organics)	Weight % Water[1]	Weight % Organics[1]	Volume % Water[1]	Volume % Non-Vol[1] (solids)	Material Usage[2] (gal/unit)	Maximum Throughput[2] (unit/hour)	VOC Content[1] lb/gal of coating less water	VOL Content lb/gal of coating	Potential Per Booth VOC (lbs/hr)	Potential Per Booth VOC (lbs/day)	Potential Per Booth VOC (t/yr)	Potential Per Booth PM (t/yr)	VOC Content per vol. Solids lb/gal solids	Trans. Eff. (%)
(2 Hedgehog Booths)																
91 Beige Aqua-Zen Primer (06532TWP)	10.24	53.96%	35.88%	18.08%	43.24%	33.36%	5.00	0.5	3.50	1.85	4.63	111.08	20.27	**25.81**	5.55	50%
Natural Yellow Aqua-Zen Gloss Enamel (09631YWA)	9.13	65.50%	45.44%	20.06%	48.73%	27.36%	5.00	0.5	3.50	1.83	4.58	109.89	20.05	17.25	6.69	50%
91 Beige Semi-Gloss Aqua-Zen Gloss Enamel (09677TWA-1)	9.85	59.93%	41.06%	18.87%	47.56%	29.13%	5.00	0.5	3.47	1.86	4.65	111.52	20.35	21.61	6.38	50%
Euclid Green Aqua-Zen Gloss Enamel (09727GWA)	9.18	67.64%	51.81%	15.83%	55.89%	26.08%	5.00	0.5	3.50	1.45	3.63	87.19	15.91	16.26	5.57	50%
91 Marine Gray Aqua-Zen Gloss Enamel (09790AWA-1)	10.10	56.63%	37.15%	19.48%	44.15%	31.16%	5.00	0.5	3.50	1.97	**4.92**	**118.05**	**21.54**	23.98	6.31	50%
Onan Green Aqua-Zen Gloss Enamel (09799GWA)	9.35	65.05%	48.16%	16.89%	52.88%	27.47%	5.00	0.5	3.50	1.58	3.95	94.75	17.29	17.89	5.75	50%
94 Titanium Black Aqua-Zen Gloss Enamel (09994KWA-1)	8.92	70.98%	54.14%	16.84%	56.65%	23.93%	5.00	0.5	3.39	1.50	3.76	90.13	16.45	14.17	6.28	50%
Rotary Drill Beige Aqua-Zen Gloss Enamel (10032TWA)	9.81	57.67%	38.16%	19.51%	44.02%	31.30%	5.00	0.5	3.50	1.91	4.78	114.84	20.96	22.74	6.11	50%
60 Red Aqua-Zen Gloss Engine Enamel (16663RWA-1)	8.75	71.77%	53.41%	18.36%	54.84%	24.38%	5.00	0.5	3.48	1.61	4.02	96.39	17.59	13.52	6.59	50%
Taxi Yellow Aqua-Zen Gloss Enamel (17168NWA)	8.77	70.84%	53.15%	17.69%	54.77%	25.25%	5.00	0.5	3.50	1.55	3.88	93.08	16.99	14.00	6.14	50%
Suede Grey Aqua-Zen Enamel (18134AWA)	9.82	59.07%	39.22%	19.85%	45.38%	30.24%	5.00	0.5	3.50	1.95	4.87	116.96	21.34	22.01	6.45	50%
Frank Mohn Fusa Aqua-Zen Gloss Enamel (18938GWA)	10.15	55.43%	36.13%	19.30%	43.24%	32.18%	5.00	0.5	3.50	1.96	4.90	117.54	21.45	24.77	6.09	50%
										Worst Case Coating:	**4.92**	**118.05**	**21.54**	**25.81**		

[1]Information obtained from client-provided Technical Bulletins unless otherwise noted; see 8/10/2011 email from S. Thompkins to D. Dempsey. Note that density is the high-end of the given range.
[2]Information obtained from client; see 8/10/2011 from S. Thompkins to D. Dempsey

	VOC (lbs/hr)	VOC (lbs/day)	VOC (t/yr)	PM (t/yr)
Total Potential Emissions (worst case coating) from all 2 booths:	**9.84**	**236.10**	**43.09**	**51.62**

Dry Filter PM Control Efficiency = **99.0%**
Total Controlled Particulate Emissions (worst case coating) from EU-01: **0.26**

Methodology:
Volatile Content (lb/gal) = Density (lb/gal) x Weight % Organics

VOC Emissions (lb/hr) = VOC Content (lb/gal) x Usage (gal/unit) x Throughput (units/hr)
VOC Emissions (lb/day) = VOC Content (lb/gal) x Usage (gal/unit) x Throughput (units/hr) x 24 (hr/day)
VOC Emissions (ton/yr) = VOC Content (lb/gal) x Usage (gal/unit) x Throughput (units/hr) x 8760 (hr/yr) / 2000 (lb/ton
PM Emissions (ton/yr) = Density (lb/gal) x Usage (gal/unit) x Throughput (units/hr) x (1- Weight % Volatiles) x (1-Transfer efficiency) x 8760 (hrs/yr) / 2000 (lb/ton
VOC Content per unit volume of Solids (lb/gal solids) = Density (lbs/gal) x Weight % organics / Volume % solids
Total = Worst Case Coating * number of spray booths with identical paint usages

Appendix A: Emission Calculations
Potential to Emit HAPs from Paint Spray Line (EU-01)

Company Name: Cummins Inc. (Seymour Engine Plant)
Address City IN Zip: 800 E. Third Street
Operating Permit Number: 071-30358-00015
Significant Source Mod. No: 071-33555-00015
Significant Permit Mod. No: 071-33585-00015
Reviewer: Deena Patton

Material[1]	Density[1] (lb/gal)	Gal of Mat[1] (gal/unit)	Maximum[1] (unit/hour)	Weight %[1] Glycol Ethers	Weight %[1] Cobalt	Weight %[1] Ethyl Benzene	Emissions Per Booth (tons/yr) Glycol Ethers	Emissions Per Booth (tons/yr) Cobalt	Emissions Per Booth (tons/yr) Ethyl Benzene	Emissions Per Booth (tons/yr) Total HAP	Trans. Eff. (%)
91 Beige Aqua-Zen Primer (06532TWP)	10.24	1.50	3	11.07%	0.00%	0.00%	22.34	0.00	0.00	22.34	50%
Natural Yellow Aqua-Zen Gloss Enamel (09631YWA)	9.13	1.50	3	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	50%
91 Beige Semi-Gloss Aqua-Zen Gloss Enamel (09677TWA-1)	9.85	1.50	3	14.60%	0.00%	0.00%	28.34	0.00	0.00	28.34	50%
Euclid Green Aqua-Zen Gloss Enamel (09727GWA)	9.18	1.50	3	10.35%	0.00%	0.00%	18.73	0.00	0.00	18.73	50%
91 Marine Gray Aqua-Zen Gloss Enamel (09790AWA-1)	10.10	1.50	3	13.26%	0.00%	0.08%	26.40	0.00	0.16	26.55	50%
Onan Green Aqua-Zen Gloss Enamel (09799GWA)	9.35	1.50	3	11.78%	0.00%	0.00%	21.71	0.00	0.00	21.71	50%
94 Titanium Black Aqua-Zen Gloss Enamel (09994KWA-1)	8.92	1.50	3	0.00%	0.00%	0.10%	0.00	0.00	0.18	0.18	50%
Rotary Drill Beige Aqua-Zen Gloss Enamel (10032TWA)	9.81	1.50	3	9.45%	0.00%	0.11%	18.27	0.00	0.21	18.48	50%
60 Red Aqua-Zen Gloss Engine Enamel (16663RWA-1)	8.75	1.50	3	0.00%	0.00%	0.10%	0.00	0.00	0.17	0.17	50%
Taxi Yellow Aqua-Zen Gloss Enamel (17168NWA)	8.77	1.50	3	0.00%	0.00%	0.10%	0.00	0.00	0.17	0.17	50%
Suede Grey Aqua-Zen Enamel (18134AWA)	9.82	1.50	3	13.92%	0.00%	0.08%	26.94	0.00	0.15	27.10	50%
Frank Mohn Fusa Aqua-Zen Gloss Enamel (18938GWA)	10.15	1.50	3	13.29%	0.00%	0.08%	26.59	0.00	0.16	26.75	50%
						Worst Case HAPs Coating:	**28.34**	**0.00**	**0.21**	**28.34**	

	Glycol Ethers (ton/yr)	Cobalt (ton/yr)	Ethyl Benzene (ton/yr)	Total HAP (ton/yr)
Total Potential Emissions (worst case coating) from all 3 booths:	**85.03**	**0.00**	**0.64**	**85.03**

Single Worst Case HAP Potential Total 85.03 Glycol Ethers
Combined Worst Case HAPs Potential Total 85.03

Material1	Density[1] (lb/gal)	Gal of Mat[1] (gal/unit)	Maximum[1] (unit/hour)	Weight %[1] Glycol Ethers	Weight %[1] Cobalt	Weight %[1] Ethyl Benzene	Emissions Per Booth (tons/yr) Glycol Ethers	Emissions Per Booth (tons/yr) Cobalt	Emissions Per Booth (tons/yr) Ethyl Benzene	Emissions Per Booth (tons/yr) Total HAP	Trans. Eff. (%)
91 Beige Aqua-Zen Primer (06532TWP)	10.24	5.00	0.5	11.07%	0.00%	0.00%	12.41	0.00	0.00	12.41	50%
Natural Yellow Aqua-Zen Gloss Enamel (09631YWA)	9.13	5.00	0.5	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	50%
91 Beige Semi-Gloss Aqua-Zen Gloss Enamel (09677TWA-1)	9.85	5.00	0.5	14.60%	0.00%	0.00%	15.75	0.00	0.00	15.75	50%
Euclid Green Aqua-Zen Gloss Enamel (09727GWA)	9.18	5.00	0.5	10.35%	0.00%	0.00%	10.40	0.00	0.00	10.40	50%
91 Marine Gray Aqua-Zen Gloss Enamel (09790AWA-1)	10.10	5.00	0.5	13.26%	0.00%	0.08%	14.66	0.00	0.09	14.75	50%
Onan Green Aqua-Zen Gloss Enamel (09799GWA)	9.35	5.00	0.5	11.78%	0.00%	0.00%	12.06	0.00	0.00	12.06	50%
94 Titanium Black Aqua-Zen Gloss Enamel (09994KWA-1)	8.92	5.00	0.5	0.00%	0.00%	0.10%	0.00	0.00	0.10	0.10	50%
Rotary Drill Beige Aqua-Zen Gloss Enamel (10032TWA)	9.81	5.00	0.5	9.45%	0.00%	0.11%	10.15	0.00	0.12	10.27	50%
60 Red Aqua-Zen Gloss Engine Enamel (16663RWA-1)	8.75	5.00	0.5	0.00%	0.00%	0.10%	0.00	0.00	0.10	0.10	50%
Taxi Yellow Aqua-Zen Gloss Enamel (17168NWA)	8.77	5.00	0.5	0.00%	0.00%	0.10%	0.00	0.00	0.10	0.10	50%
Suede Grey Aqua-Zen Enamel (18134AWA)	9.82	5.00	0.5	13.92%	0.00%	0.08%	14.97	0.00	0.09	15.05	50%
Frank Mohn Fusa Aqua-Zen Gloss Enamel (18938GWA)	10.15	5.00	0.5	13.29%	0.00%	0.08%	0.19	0.00	0.09	0.28	50%
						Worst Case HAPs Coating:	**15.75**	**0.00**	**0.12**	**15.75**	

	Glycol Ethers (ton/yr)	Cobalt (ton/yr)	Ethyl Benzene (ton/yr)	Total HAP (ton/yr)
Total Potential Emissions (worst case coating) from all 2 booths:	**31.49**	**0.00**	**0.24**	**31.73**

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

Company Name: Cummins Inc. (Seymour Engine Plant
Address City IN Zip: 800 E. Third Street
Operating Permit Number: 071-30358-00015
Significant Source Mod. No: 071-33555-00015
Significant Permit Mod. No: 071-33585-00015
Reviewer: Deena Patton

Emission Unit	# of units	MMBtu/hr	Total MMBtu/hr
Air Handling Units	17		25.5
Unit Heater	1	0.4	0.4
Air Handling Units	4	0.47	1.88
Air Handling Units	1	0.8	0.8
Air Handling Units	1	0.67	0.67
Air Handling Units	2	0.3	0.6
Air Handling Units	1	2.59	2.59
Dry Curing Ovens	2	2.4	4.8
Unit Heater	8	0.15	1.2
Unit Heater	9	0.18	1.62
Combined Total			**40.06**

Heat Input Capacity MMBtu/hr	HHV mmBtu/mmscf	Potential Throughput MMCF/yr
40.1	1020	344.0

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Potential Emission in tons/yr	0.3	1.3	1.3	0.1	17.2	0.9	14.4

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
PM2.5 emission factor is filterable and condensable PM2.5 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
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
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

HAPS Calculations

	HAPs - Organics					
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	**Total - Organics**
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	
Potential Emission in tons/yr	3.612E-04	2.064E-04	1.290E-02	3.096E-01	5.849E-04	**3.237E-01**

	HAPs - Metals					
	Lead	Cadmium	Chromium	Manganese	Nickel	**Total - Metals**
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	
Potential Emission in tons/yr	8.601E-05	1.892E-04	2.408E-04	6.537E-05	3.612E-04	**9.427E-04**

Total HAPs	**3.246E-01**
Worst HAP	**3.096E-01**

Methodology is the same as above

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Greenhouse Gas Calculations

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	120,000	2.3	2.2
Potential Emission in tons/yr	20,643	0.4	0.4
Summed Potential Emissions in tons/yr	20,643		
CO2e Total in tons/yr	20,768		

Methodology
The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Company Name: Cummins Inc. (Seymour Engine Plant
Address City IN Zip: 800 E. Third Street
Operating Permit Number: 071-30358-00015
Significant Source Mod. No: 071-33555-00015
Significant Permit Mod. No: 071-33585-00015
Reviewer: Deena Patton

Emission Unit	# of units	MMBtu/hr	Total MMBtu/hr
Air Handling Units	1	2.72	2.72
Air Handling Units	1	2.72	2.72
Hedgehog Block Line Units			
Rooftop Units (RTU-1 & RTU-2)	2	3	6
Air Handling Unit (AHU-1)	1	0.25	0.25
Unit Heaters (UH-1 through UH-6)	6	0.2	1.2
Dock Heaters (DH-1 through DH-5)	5	1	5
Combined Total			**17.89**

Heat Input Capacity MMBtu/hr	HHV mmBtu/mmscf	Potential Throughput MMCF/yr
17.9	1020	153.6

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Potential Emission in tons/yr	0.1	0.6	0.6	0.0	7.7	0.4	6.5

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
PM2.5 emission factor is filterable and condensable PM2.5 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
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
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

HAPS Calculations

	HAPs - Organics					
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	**Total - Organics**
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	
Potential Emission in tons/yr	1.613E-04	9.219E-05	5.762E-03	1.383E-01	2.612E-04	**1.446E-01**

	HAPs - Metals					
	Lead	Cadmium	Chromium	Manganese	Nickel	**Total - Metals**
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	
Potential Emission in tons/yr	3.841E-05	8.450E-05	1.076E-04	2.919E-05	1.613E-04	**4.210E-04**
					Total HAPs	**1.450E-01**
Methodology is the same as above					**Worst HAP**	**1.383E-01**

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Greenhouse Gas Calculations

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	120,000	2.3	2.2
Potential Emission in tons/yr	9,219	0.2	0.2
Summed Potential Emissions in tons/yr	9,219		
CO2e Total in tons/yr	9,275		

Methodology
The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

updated 2/13

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Company Name: Cummins Inc. (Seymour Engine Plant
Address City IN Zip: 800 E. Third Street
Operating Permit Number: 071-30358-00015
Significant Source Mod. No: 071-33555-00015
Significant Permit Mod. No: 071-33585-00015
Reviewer: Deena Patton

Emission Unit	# of units	MMBtu/hr	Total MMBtu/hr
Boilers (EU03I & EU03J)	2	4	8
Boiler (EU03K)	1	3.2	3.2
Boiler (EU03W)	1	5	5
Boilers (EU03C, EU03D, EU03L, EU03M, EU03S through EU03V)	8	2	16
Boiler (EU03X)	1	4.2	4.2
Combined Total			**36.4**

Heat Input Capacity MMBtu/hr	HHV mmBtu/mmscf	Potential Throughput MMCF/yr
36.4	1020	312.6

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Potential Emission in tons/yr	0.3	1.2	1.2	0.1	15.6	0.9	13.1

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
PM2.5 emission factor is filterable and condensable PM2.5 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
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
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

HAPS Calculations

	HAPs - Organics					
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	**Total - Organics**
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	
Potential Emission in tons/yr	3.282E-04	1.876E-04	1.172E-02	2.814E-01	5.314E-04	**2.941E-01**

	HAPs - Metals					
	Lead	Cadmium	Chromium	Manganese	Nickel	**Total - Metals**
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	
Potential Emission in tons/yr	7.815E-05	1.719E-04	2.188E-04	5.940E-05	3.282E-04	**8.566E-04**
					Total HAPs	**2.950E-01**
Methodology is the same as above					**Worst HAP**	**2.814E-01**

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Greenhouse Gas Calculations

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	120,000	2.3	2.2
Potential Emission in tons/yr	18,757	0.4	0.3
Summed Potential Emissions in tons/yr	18,757		
CO2e Total in tons/yr	18,871		

Methodology
The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

updated 2/13

Appendix A: Emissions Calculations
Boilers Limited
MM BTU/HR <100

Company Name: Cummins Inc. (Seymour Engine Plant
Address City IN Zip: 800 E. Third Street
Operating Permit Number: 071-30358-00015
Significant Source Mod. No: 071-33555-00015
Significant Permit Mod. No: 071-33585-00015
Reviewer: Deena Patton

Emission Unit	# of units	MMBtu/hr	Total MMBtu/hr
Boilers (EU03I & EU03J)	2	0.338	0.676
Boiler (EU03K)	1	0.338	0.338
Boiler (EU03W)	1	0.338	0.338
Boilers (EU03C, EU03D, EU03L, EU03M, EU03S through EU03V)	8	0.338	2.704
Boiler (EU03X)	1	0.338	0.338
Combined Total			**4.394**

Heat Input Capacity MMBtu/hr	HHV mmBtu/mmscf	Potential Throughput MMCF/yr
4.4	1020	37.7

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Potential Emission in tons/yr	0.0	0.1	0.1	0.0	1.9	0.1	1.6

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
PM2.5 emission factor is filterable and condensable PM2.5 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
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
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

HAPS Calculations

	HAPs - Organics					
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	**Total - Organics**
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	
Potential Emission in tons/yr	3.962E-05	2.264E-05	1.415E-03	3.396E-02	6.415E-05	**3.550E-02**

	HAPs - Metals					
	Lead	Cadmium	Chromium	Manganese	Nickel	**Total - Metals**
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	
Potential Emission in tons/yr	9.434E-06	2.076E-05	2.642E-05	7.170E-06	3.962E-05	**1.034E-04**
					Total HAPs	**3.561E-02**
Methodology is the same as above					**Worst HAP**	**3.396E-02**

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Greenhouse Gas Calculations

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	120,000	2.3	2.2
Potential Emission in tons/yr	2,264	0.0	0.0
Summed Potential Emissions in tons/yr	2,264		
CO2e Total in tons/yr	2,278		

Methodology
The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

updated 2/13

Appendix A: Emissions Calculations
Natural Gas Combustion Only
Low Nox Burner Units
MM BTU/HR <100

Company Name: Cummins Inc. (Seymour Engine Plant)
Address City IN Zip: 800 E. Third Street
Operating Permit Number: 071-30358-00015
Significant Source Mod. No: 071-33555-00015
Significant Permit Mod. No: 071-33585-00015
Reviewer: Deena Patton

Emission Unit	# of units	MMBtu/hr	Total MMBtu/hr
Air Handling Units	2	3.27	6.54
Dry and Curing Units	2	1.76	3.52
Combined Total			**10.06**

Heat Input Capacity MMBtu/hr	HHV mmBtu/mmscf	Potential Throughput MMCF/yr
10.1	1020	86.4

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	50 **see below	5.5	84
Potential Emission in tons/yr	0.1	0.3	0.3	0.0	2.2	0.2	3.6

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
PM2.5 emission factor is filterable and condensable PM2.5 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
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
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

HAPS Calculations

	HAPs - Organics					
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	**Total - Organics**
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	
Potential Emission in tons/yr	9.072E-05	5.184E-05	3.240E-03	7.776E-02	1.469E-04	**8.129E-02**

	HAPs - Metals					
	Lead	Cadmium	Chromium	Manganese	Nickel	**Total - Metals**
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	
Potential Emission in tons/yr	2.160E-05	4.752E-05	6.048E-05	1.642E-05	9.072E-05	**2.367E-04**
					Total HAPs	**8.152E-02**
					Worst HAP	**7.776E-02**

Methodology is the same as above.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Greenhouse Gas Calculations

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	120,000	2.3	2.2
Potential Emission in tons/yr	5,184	0.1	0.1
Summed Potential Emissions in tons/yr	5,184		
CO2e Total in tons/yr	5,215		

Methodology
The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

updated 2/13

Appendix A: Emissions Calculations
Natural Gas Combustion Only
Low Nox Burner Units
MM BTU/HR <100

Company Name: **Cummins Inc. (Seymour Engine Plant)**
Address City IN Zip: **800 E. Third Street**
Operating Permit Number: **071-30358-00015**
Significant Source Mod. No: **071-33555-00015**
Significant Permit Mod. No: **071-33585-00015**
Reviewer: **Deena Patton**

Emission Unit	# of units	MMBtu/hr	Total MMBtu/hr
Boilers (EU03E through EU03H, EU03R)	5	3	15
Boilers (EU03N through EU03Q)	4	3.5	14
Combined Total			**29**

Heat Input Capacity MMBtu/hr	HHV mmBtu/mmscf	Potential Throughput MMCF/yr
29.0	1020	249.1

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	50 **see below	5.5	84
Potential Emission in tons/yr	0.2	0.9	0.9	0.1	6.2	0.7	10.5

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
PM2.5 emission factor is filterable and condensable PM2.5 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
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
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

HAPS Calculations

	HAPs - Organics					
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	**Total - Organics**
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	
Potential Emission in tons/yr	2.615E-04	1.494E-04	9.340E-03	2.242E-01	4.234E-04	**2.343E-01**

	HAPs - Metals					
	Lead	Cadmium	Chromium	Manganese	Nickel	**Total - Metals**
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	
Potential Emission in tons/yr	6.226E-05	1.370E-04	1.743E-04	4.732E-05	2.615E-04	**6.824E-04**

Total HAPs	**2.350E-01**
Worst HAP	**2.242E-01**

Methodology is the same as above.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Greenhouse Gas Calculations

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	120,000	2.3	2.2
Potential Emission in tons/yr	14,944	0.3	0.3
Summed Potential Emissions in tons/yr	14,944		
CO2e Total in tons/yr	15,034		

Methodology
The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

updated 2/13

Appendix A: Emissions Calculations
Natural Gas Combustion Only
Low Nox Boilers Limited
MM BTU/HR <100

Company Name: Cummins Inc. (Seymour Engine Plant)
Address City IN Zip: 800 E. Third Street
Operating Permit Number: 071-30358-00015
Significant Source Mod. No: 071-33555-00015
Significant Permit Mod. No: 071-33585-00015
Reviewer: Deena Patton

Emission Unit	# of units	MMBtu/hr	Total MMBtu/hr
Boilers (EU03E through EU03H, EU03R)	5	0.374	1.87
Boilers (EU03N through EU03Q)	4	0.374	1.496
Combined Total			**3.366**

Heat Input Capacity MMBtu/hr	HHV mmBtu/mmscf	Potential Throughput MMCF/yr
3.4	1020	28.9

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	50 **see below	5.5	84
Potential Emission in tons/yr	0.0	0.1	0.1	0.0	0.7	0.1	1.2

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
PM2.5 emission factor is filterable and condensable PM2.5 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
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
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

HAPS Calculations

	HAPs - Organics					
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	**Total - Organics**
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	
Potential Emission in tons/yr	3.035E-05	1.734E-05	1.084E-03	2.602E-02	4.914E-05	**2.720E-02**

	HAPs - Metals					
	Lead	Cadmium	Chromium	Manganese	Nickel	**Total - Metals**
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	
Potential Emission in tons/yr	7.227E-06	1.590E-05	2.024E-05	5.493E-06	3.035E-05	**7.921E-05**

Total HAPs	**2.728E-02**
Worst HAP	**2.602E-02**

Methodology is the same as above.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Greenhouse Gas Calculations

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	120,000	2.3	2.2
Potential Emission in tons/yr	1,734	0.0	0.0
Summed Potential Emissions in tons/yr	1,735		
CO2e Total in tons/yr	1,745		

Methodology
The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

updated 2/13

Appendix A: Emissions Calculations
Duct Burners

Company Name: Cummins Inc. (Seymour Engine Plant)
Address City IN Zip: 800 E. Third Street
Operating Permit Number: 071-30358-00015
Significant Source Mod. No: 071-33555-00015
Significant Permit Mod. No: 071-33585-00015
Reviewer: Deena Patton

Unit	MMBtu/hr
HHP1	2
HHP6	2
HHP7	2
HHP8	2
HHP9	2
HHP10	2
HHP11	2
HHP12	2
HHP13	2
HHP14	2
Total	**20**

Heat Input Capacity MMBtu/hr	HHV mmBtu/mmscf	Potential Throughput MMCF/yr
20.0	1020	171.8

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Potential Emission in tons/yr	0.2	0.7	0.7	0.1	8.6	0.5	7.2

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined
PM2.5 emission factor is filterable and condensable PM2.5 combined
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 3

Methodology

All emission factors are based on normal firing
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
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
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

HAPS Calculations

	HAPs - Organics					
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	**Total - Organics**
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	
Potential Emission in tons/yr	1.804E-04	1.031E-04	6.441E-03	1.546E-01	2.920E-04	**1.616E-01**

	HAPs - Metals					
	Lead	Cadmium	Chromium	Manganese	Nickel	**Total - Metals**
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	
Potential Emission in tons/yr	4.294E-05	9.447E-05	1.202E-04	3.264E-05	1.804E-04	**4.706E-04**
					Total HAPs	**1.621E-01**
					Worst HAP	**1.546E-01**

Methodology is the same as above.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Greenhouse Gas Calculations

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	120,000	2.3	2.2
Potential Emission in tons/yr	10,306	0.2	0.2
Summed Potential Emissions in tons/yr	10,306		
CO2e Total in tons/yr	10,369		

Methodology
The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Engine Test Cells
Output Rating (>600 HP, each)
Test Cells HHP1, HHP6 through HHP10, Production 1 through 4

Company Name: Cummins Inc. (Seymour Engine Plant)
Address City IN Zip: 800 E. Third Street
Operating Permit Number: 071-30358-00015
Significant Source Mod. No: 071-33555-00015
Significant Permit Mod. No: 071-33585-00015
Reviewer: Deena Patton

Potential to Emit for Test Cells

Diesel

Test Cell Engine	Max. Fuel Usage (kgal/yr)[1]	Emission Factors (lb/gal)[2]											
		NOx[3]	SO2[4]	VOC	PM[5]	PM10[5]	PM2.5[5]	CO	Single HAP[6]	Total HAP[6]	CO2[7]	CH4[7]	N2O[7]
HHP1	1,760	0.320	2.08E-04	0.012	0.0085	0.0079	0.0076	0.116	1.06E-04	2.00E-04	22.50	9.13E-04	1.83E-04
HHP6	1,760	0.320	2.08E-04	0.012	0.0085	0.0079	0.0076	0.116	1.06E-04	2.00E-04	22.50	9.13E-04	1.83E-04
HHP8	1,760	0.320	2.08E-04	0.012	0.0085	0.0079	0.0076	0.116	1.06E-04	2.00E-04	22.50	9.13E-04	1.83E-04
HHP9	1,760	0.320	2.08E-04	0.012	0.0085	0.0079	0.0076	0.116	1.06E-04	2.00E-04	22.50	9.13E-04	1.83E-04
Production 1	1,760	0.320	2.08E-04	0.012	0.0085	0.0079	0.0076	0.116	1.06E-04	2.00E-04	22.50	9.13E-04	1.83E-04
Production 2	1,760	0.320	2.08E-04	0.012	0.0085	0.0079	0.0076	0.116	1.06E-04	2.00E-04	22.50	9.13E-04	1.83E-04
Production 3	1,760	0.320	2.08E-04	0.012	0.0085	0.0079	0.0076	0.116	1.06E-04	2.00E-04	22.50	9.13E-04	1.83E-04
Production 4	1,760	0.320	2.08E-04	0.012	0.0085	0.0079	0.0076	0.116	1.06E-04	2.00E-04	22.50	9.13E-04	1.83E-04
HHP7	1,760	0.320	2.08E-04	0.012	0.0085	0.0079	0.0076	0.116	1.06E-04	2.00E-04	22.50	9.13E-04	1.83E-04
HHP10	1,760	0.320	2.08E-04	0.012	0.0085	0.0079	0.0076	0.116	1.06E-04	2.00E-04	22.50	9.13E-04	1.83E-04

Test Cell Engine	Emissions (tons/yr)												
	NOx	SO2	VOC	PM	PM10	PM2.5	CO	Single HAP	Total HAP	CO2	CH4	N2O	CO2e
HHP1	281.60	0.18	10.85	7.48	6.91	6.70	102.50	0.094	0.176	19,801	0.80	0.16	19,868
HHP6	281.60	0.18	10.85	7.48	6.91	6.70	102.50	0.094	0.176	19,801	0.80	0.16	19,868
HHP8	281.60	0.18	10.85	7.48	6.91	6.70	102.50	0.094	0.176	19,801	0.80	0.16	19,868
HHP9	281.60	0.18	10.85	7.48	6.91	6.70	102.50	0.094	0.176	19,801	0.80	0.16	19,868
Production 1	281.60	0.18	10.85	7.48	6.91	6.70	102.50	0.094	0.176	19,801	0.80	0.16	19,868
Production 2	281.60	0.18	10.85	7.48	6.91	6.70	102.50	0.094	0.176	19,801	0.80	0.16	19,868
Production 3	281.60	0.18	10.85	7.48	6.91	6.70	102.50	0.094	0.176	19,801	0.80	0.16	19,868
Production 4	281.60	0.18	10.85	7.48	6.91	6.70	102.50	0.094	0.176	19,801	0.80	0.16	19,868
HHP7	281.60	0.18	10.85	7.48	6.91	6.70	102.50	0.094	0.176	19,801	0.80	0.16	19,868
HHP10	281.60	0.18	10.85	7.48	6.91	6.70	102.50	0.094	0.176	19,801	0.80	0.16	19,868
Total Emissions	**2816**	**1.83**	**108.53**	**74.76**	**69.10**	**67.05**	**1,024.98**	**0.94**	**1.76**	**198,012.64**	**8.03**	**1.61**	**198,679.29**

1. Max fuel usages evaluated based on testing of a 9,000 hp engine.
2. Emission Factors are based on AP-42 Section 3.4 (Tables 3.4-1, 3.4-2, 3.4-3, 3.4-4) and are calculated using an average heating value 19,300 Btu/lb and a density of 7.1 lb/gallon for diesel fuel per footnote a to Table 3.4-1.
3. Diesel NOx emission factor is 0.320 based on preliminary engine designs and anticipated testing regiment.
4. All SO2 emission factors based on use of ultra-low sulfur diesel (15 ppm max).
5. PM emission factor is for filterable PM. PM10/PM2.5 emission factor is for filterable PM10/PM2.5 and condensable particulate. Particle size < 3 um is used to determine filterable PM2.5.
6. Single HAP with highest emission factor is benzene. Total HAP includes pollutants with top 5 emission factors: benzene, toluene, xylenes, napthalene, and formaldehyde.
7. Emission factors for CO2, CH4, and N2O and diesel fuel heat content are based on 40 CFR 98 Subpart C (Tables C-1, C-2).

Methodology
Emissions (tons/yr) = Fuel Usage (kgal/yr) * 1000 (gal/kgal) * Emission Factor (lb/gal) * 1/2000 (ton/lb)

Conversion Factors		
0.45359237	kg/lb	
Greenhouse Gases		
Global Warming Potential (GWP)		
CO_2	**CH_4**	**N_2O**
1	21	310

Engine Test Cells
Output Rating (>600 HP, each)
Test Cells HHP1, HHP6 through HHP10, Production 1 through 4

Company Name: Cummins Inc. (Seymour Engine Plant)
Address City IN Zip: 800 E. Third Street
Operating Permit Number: 071-30358-00015
Significant Source Mod. No: 071-33555-00015
Significant Permit Mod. No: 071-33585-00015
Reviewer: Deena Patton

Biodiesel

Test Cell Engine	Max. Fuel Usage (kgal/yr)[1]	Emission Factors (lb/gal)[2] NOx[3]	SO2[4]	VOC	PM[5]	PM10[5]	PM2.5[5]	CO	Single HAP[6]	Total HAP[6]	CO2[7]	CH4[7]	N2O[7]
HHP1	1,760	0.339	2.08E-04	0.012	0.0085	0.0079	0.0076	0.116	1.06E-04	2.00E-04	20.837	3.10E-04	3.10E-05
HHP6	1,760	0.339	2.08E-04	0.012	0.0085	0.0079	0.0076	0.116	1.06E-04	2.00E-04	20.837	3.10E-04	3.10E-05
HHP8	1,760	0.339	2.08E-04	0.012	0.0085	0.0079	0.0076	0.116	1.06E-04	2.00E-04	20.837	3.10E-04	3.10E-05
HHP9	1,760	0.339	2.08E-04	0.012	0.0085	0.0079	0.0076	0.116	1.06E-04	2.00E-04	20.837	3.10E-04	3.10E-05
Production 1	1,760	0.339	2.08E-04	0.012	0.0085	0.0079	0.0076	0.116	1.06E-04	2.00E-04	20.837	3.10E-04	3.10E-05
Production 2	1,760	0.339	2.08E-04	0.012	0.0085	0.0079	0.0076	0.116	1.06E-04	2.00E-04	20.837	3.10E-04	3.10E-05
Production 3	1,760	0.339	2.08E-04	0.012	0.0085	0.0079	0.0076	0.116	1.06E-04	2.00E-04	20.837	3.10E-04	3.10E-05
Production 4	1,760	0.339	2.08E-04	0.012	0.0085	0.0079	0.0076	0.116	1.06E-04	2.00E-04	20.837	3.10E-04	3.10E-05
HHP7	1,760	0.339	2.08E-04	0.012	0.0085	0.0079	0.0076	0.116	1.06E-04	2.00E-04	20.837	3.10E-04	3.10E-05
HHP10	1,760	0.339	2.08E-04	0.012	0.0085	0.0079	0.0076	0.116	1.06E-04	2.00E-04	20.837	3.10E-04	3.10E-05

Test Cell Engine	Emissions (tons/yr) NOx	SO2	VOC	PM	PM10	PM2.5	CO	Single HAP	Total HAP	CO2	CH4	N2O	CO2e
HHP1	297.93	0.18	10.85	7.48	6.91	6.70	102.50	0.094	0.176	18,337	0.27	0.03	18,351
HHP6	297.93	0.18	10.85	7.48	6.91	6.70	102.50	0.094	0.176	18,337	0.27	0.03	18,351
HHP8	297.93	0.18	10.85	7.48	6.91	6.70	102.50	0.094	0.176	18,337	0.27	0.03	18,351
HHP9	297.93	0.18	10.85	7.48	6.91	6.70	102.50	0.094	0.176	18,337	0.27	0.03	18,351
Production 1	297.93	0.18	10.85	7.48	6.91	6.70	102.50	0.094	0.176	18,337	0.27	0.03	18,351
Production 2	297.93	0.18	10.85	7.48	6.91	6.70	102.50	0.094	0.176	18,337	0.27	0.03	18,351
Production 3	297.93	0.18	10.85	7.48	6.91	6.70	102.50	0.094	0.176	18,337	0.27	0.03	18,351
Production 4	297.93	0.18	10.85	7.48	6.91	6.70	102.50	0.094	0.176	18,337	0.27	0.03	18,351
HHP7	297.93	0.18	10.85	7.48	6.91	6.70	102.50	0.094	0.176	18,337	0.27	0.03	18,351
HHP10	297.93	0.18	10.85	7.48	6.91	6.70	102.50	0.094	0.176	18,337	0.27	0.03	18,351
Total Emissions	**2979.328**	**1.826884**	**108.53**	**74.76**	**69.10**	**67.05**	**1,024.98**	**0.94**	**1.76**	**183,365.91**	**2.73**	**0.27**	**183,507.95**

1. Max fuel usages evaluated based on testing of a 9,000 hp engine.
2. Emission Factors are based on AP-42 Section 3.4 (Tables 3.4-1, 3.4-2, 3.4-3, 3.4-4) and are calculated using an average heating value 19,300 Btu/lb and a density of 7.1 lb/gallon for diesel fuel per footnote a to Table 3.4-1.
3. Based on "Biodiesel Handling and Use Guidelines," NREL/TP-580-30004, B100 blend of biodiesel increases NOx by 5.8%.
4. All SO2 emission factors based on use of ultra-low sulfur diesel (15 ppm max).
5. PM emission factor is for filterable PM. PM10/PM2.5 emission factor is for filterable PM10/PM2.5 and condensable particulate. Particle size < 3 um is used to determine filterable PM2.5.
6. Single HAP with highest emission factor is benzene. Total HAP includes pollutants with top 5 emission factors: benzene, toluene, xylenes, napthalene, and formaldehyde.
7. Emission factors for CO2, CH4, and N2O and biodiesel fuel heat content are based on 40 CFR 98 Subpart C (Tables C-1, C-2).

Methodology

Emissions (tons/yr) = Fuel Usage (kgal/yr) * 1000 (gal/kgal) * Emission Factor (lb/gal) * 1/2000 (ton/lb)

Natural Gas

Test Cell Engine	Heat Input[1] (MMBtu/yr)	Emission Factors (lb/MMBtu)[2] NOx	SO2	VOC	PM[3]	PM10[3]	PM2.5[3]	CO	Single HAP[4]	Total HAP[4]	CO2[5]	CH4[5]	N2O[5]
HHP1	241,173	4.08	5.88E-04	0.118	0.000077	9.99E-03	9.99E-03	0.557			116.889	0.0022	0.00022
HHP6	241,173	4.08	5.88E-04	0.118	0.000077	9.99E-03	9.99E-03	0.557			116.889	0.0022	0.00022
HHP8	241,173	4.08	5.88E-04	0.118	0.000077	9.99E-03	9.99E-03	0.557			116.889	0.0022	0.00022
HHP9	241,173	4.08	5.88E-04	0.118	0.000077	9.99E-03	9.99E-03	0.557			116.889	0.0022	0.00022
Production 1	241,173	4.08	5.88E-04	0.118	0.000077	9.99E-03	9.99E-03	0.557			116.889	0.0022	0.00022
Production 2	241,173	4.08	5.88E-04	0.118	0.000077	9.99E-03	9.99E-03	0.557			116.889	0.0022	0.00022
Production 3	241,173	4.08	5.88E-04	0.118	0.000077	9.99E-03	9.99E-03	0.557			116.889	0.0022	0.00022
Production 4	241,173	4.08	5.88E-04	0.118	0.000077	9.99E-03	9.99E-03	0.557			116.889	0.0022	0.00022
HHP7	241,173	4.08	5.88E-04	0.118	0.000077	9.99E-03	9.99E-03	0.557			116.889	0.0022	0.00022
HHP10	241,173	4.08	5.88E-04	0.118	0.000077	9.99E-03	9.99E-03	0.557			116.889	0.0022	0.00022

Test Cell Engine	Emissions (tons/yr) NOx	SO2	VOC	PM	PM10	PM2.5	CO	Single HAP	Total HAP	CO2	CH4	N2O	CO2e
HHP1	491.99	0.07	14.23	0.01	1.20	1.20	67.17	-	-	14,095	0.27	0.03	14,109
HHP6	491.99	0.07	14.23	0.01	1.20	1.20	67.17	-	-	14,095	0.27	0.03	14,109
HHP8	491.99	0.07	14.23	0.01	1.20	1.20	67.17	-	-	14,095	0.27	0.03	14,109
HHP9	491.99	0.07	14.23	0.01	1.20	1.20	67.17	-	-	14,095	0.27	0.03	14,109
Production 1	491.99	0.07	14.23	0.01	1.20	1.20	67.17	-	-	14,095	0.27	0.03	14,109
Production 2	491.99	0.07	14.23	0.01	1.20	1.20	67.17	-	-	14,095	0.27	0.03	14,109
Production 3	491.99	0.07	14.23	0.01	1.20	1.20	67.17	-	-	14,095	0.27	0.03	14,109
Production 4	491.99	0.07	14.23	0.01	1.20	1.20	67.17	-	-	14,095	0.27	0.03	14,109
HHP7	491.99	0.07	14.23	0.01	1.20	1.20	67.17	-	-	14,095	0.27	0.03	14,109
HHP10	491.99	0.07	14.23	0.01	1.20	1.20	67.17	-	-	14,095	0.27	0.03	14,109
Total Emissions	**4919.925**	**0.709048**	**142.292**	**0.092972**	**12.04308**	**12.04308**	**671.6662**			**140,952.35**	**2.66**	**0.27**	**141,090.59**

1. Max fuel usage was based on testing of a 9,000 hp engine while using diesel. Diesel's heat content of 137.03 MMBtu/kgal was then used to estimate the maximum heat input capacity per test cell.
2. Emission factors from AP-42 Section 3.2 (Table 3.2-2 - uncontrolled emission factors for 4-stroke lean-burn engines), unless otherwise noted.
3. PM emission factor is for filterable PM. PM10/PM2.5 emission factor is for filterable PM10/PM2.5 and condensable particulate.
4. 071-21065-00015 states that Fuel Oil is worst case for HAPs so no calculations were completed for HAPs from Natural Gas.
5. Emission factors for CO2, CH4, and N2O are based on 40 CFR 98 Subpart C (Tables C-1, C-2).

Methodology

Heat Input (MMBtu/yr) = Max Diesel Usage (kgal/yr) * 1,000 (gal/kgal) * 7.1 (lb/gal) * 19,300 (Btu/lb) / 1,000,000 (Btu/MMBtu)

Emissions (tons/yr) = Heat Input (MMBtu/yr) * Emission Factor (lb/MMBtu) * 1/2000 (ton/lb)

Engine Test Cells
Output Rating (>600 HP, each)
Test Cells HHP1, HHP6 through HHP10, Production 1 through 4

Company Name: **Cummins Inc. (Seymour Engine Plant)**
Address City IN Zip: **800 E. Third Street**
Operating Permit Number: **071-30358-00015**
Significant Source Mod. No: **071-33555-00015**
Significant Permit Mod. No: **071-33585-00015**
Reviewer: **Deena Patton**

Propane

Test Cell Engine	Max. Fuel Usage (kgal/yr)[1]	Emission Factors (lb/kgal)[2] NOx	SO2	VOC	PM	PM10	PM2.5[3]	CO	Single HAP[4]	Total HAP[4]	CO2[5]	CH4[5]	N2O[5]
HHP1	2,650	139.0	0.350	83.0	5.0	5.0	5.0	129.0			12330.1	0.602	0.120
HHP6	2,650	139.0	0.350	83.0	5.0	5.0	5.0	129.0			12330.1	0.602	0.120
HHP8	2,650	139.0	0.350	83.0	5.0	5.0	5.0	129.0			12330.1	0.602	0.120
HHP9	2,650	139.0	0.350	83.0	5.0	5.0	5.0	129.0			12330.1	0.602	0.120
Production 1	2,650	139.0	0.350	83.0	5.0	5.0	5.0	129.0			12330.1	0.602	0.120
Production 2	2,650	139.0	0.350	83.0	5.0	5.0	5.0	129.0			12330.1	0.602	0.120
Production 3	2,650	139.0	0.350	83.0	5.0	5.0	5.0	129.0			12330.1	0.602	0.120
Production 4	2,650	139.0	0.350	83.0	5.0	5.0	5.0	129.0			12330.1	0.602	0.120
HHP7	2,650	139.0	0.350	83.0	5.0	5.0	5.0	129.0			12330.1	0.602	0.120
HHP10	2,650	139.0	0.350	83.0	5.0	5.0	5.0	129.0			12330.1	0.602	0.120

Test Cell Engine	Emissions (tons/yr) NOx	SO2	VOC	PM	PM10	PM2.5	CO	Single HAP	Total HAP	CO2	CH4	N2O	CO2e
HHP1	184.19	0.46	109.99	6.63	6.63	6.63	170.94	-	-	16,339	0.80	0.16	16,405
HHP6	184.19	0.46	109.99	6.63	6.63	6.63	170.94	-	-	16,339	0.80	0.16	16,405
HHP8	184.19	0.46	109.99	6.63	6.63	6.63	170.94	-	-	16,339	0.80	0.16	16,405
HHP9	184.19	0.46	109.99	6.63	6.63	6.63	170.94	-	-	16,339	0.80	0.16	16,405
Production 1	184.19	0.46	109.99	6.63	6.63	6.63	170.94	-	-	16,339	0.80	0.16	16,405
Production 2	184.19	0.46	109.99	6.63	6.63	6.63	170.94	-	-	16,339	0.80	0.16	16,405
Production 3	184.19	0.46	109.99	6.63	6.63	6.63	170.94	-	-	16,339	0.80	0.16	16,405
Production 4	184.19	0.46	109.99	6.63	6.63	6.63	170.94	-	-	16,339	0.80	0.16	16,405
HHP7	184.19	0.46	109.99	6.63	6.63	6.63	170.94	-	-	16,339	0.80	0.16	16,405
HHP10	184.19	0.46	109.99	6.63	6.63	6.63	170.94	-	-	16,339	0.80	0.16	16,405
Total Emissions	**1,841.92**	**4.64**	**1,099.85**	**66.26**	**66.26**	**66.26**	**1,709.41**			**163,389.88**	**7.98**	**1.60**	**164,051.84**

1. Max fuel usage was based on testing of a 9,000 hp engine while using diesel. Because propane's heat content is lower than natural gas, it takes 1.506 times more propane than natural gas to achieve the same annual heat input capacity.
2. Emission factors from Cummins CTC - Plant 5 engine test cell emission factors for LPG from TSD to permit T005-7466-00002, unless otherwise noted.
3. PM10 assumed equal to PM2.5 emission factor.
4. 071-21065-00015 states that Fuel Oil is worst case for HAPs so no calculations were completed for HAPs from Propane.
5. Emission factors for CO2, CH4, and N2O and propane heat content are based on 40 CFR 98 Subpart C (Tables C-1, C-2).

Methodology

Fuel Usage (kgal/yr) = Max Diesel Usage (kgal/yr) * 1,000 (gal/kgal) * 7.1 $(lb/gal)_{diesel}$ * 19,300 $(Btu/lb)_{diesel}$ / 1,000,000 (Btu/MMBtu) / [0.091 $(MMBtu/gal)_{propane}$ *1,000 (gal/kgal)]

Emissions (tons/yr) = Max Fuel Usage (kgal/yr) * Emission Factor (lb/kgal) * 1/2000 (ton/lb)

Hydrogen

Test Cell Engine	Heat Input[1] (MMBtu/yr)	Emission Factors (lb/MMBtu)[2] NOx	N2O[3]	Emissions (tons/yr) NOx	N2O	CO2e
HHP1	241,173	6.12	0.00033	737.99	0.040	12
HHP6	241,173	6.12	0.00033	737.99	0.040	12
HHP8	241,173	6.12	0.00033	737.99	0.040	12
HHP9	241,173	6.12	0.00033	737.99	0.040	12
Production 1	241,173	6.12	0.00033	737.99	0.040	12
Production 2	241,173	6.12	0.00033	737.99	0.040	12
Production 3	241,173	6.12	0.00033	737.99	0.040	12
Production 4	241,173	6.12	0.00033	737.99	0.040	12
HHP7	241,173	6.12	0.00033	737.99	0.040	12
HHP10	241,173	6.12	0.00033	737.99	0.040	12
Total Emissions				**7,379.89**	**0.40**	**123.62**

1. Max fuel usage was based on testing of a 9,000 hp engine while using diesel. Diesel's heat content of 137.03 MMBtu/kgal was then used to estimate the maximum heat input capacity per test cell.
2. Emission factors from AP-42 Section 3.2 (Table 3.2-2 - uncontrolled emission factors for 4-stroke lean-burn engines) assuming NOx emitted at a rate 50% greater than NG based on higher combustion temperature of hydrogen versus natural gas.
3. Emission factor for N2O is based on 40 CFR 98 Subpart C (Tables C-1, C-2) emitted at a rate 50% greater than NG based on higher combustion temperature of hydrogen versus natural gas.

Methodology

Heat Input (MMBtu/yr) = Max Diesel Usage (kgal/yr) * 1,000 (gal/kgal) * 7.1 (lb/gal) * 19,300 (Btu/lb) / 1,000,000 (Btu/MMBtu)

Emissions (tons/yr) = Heat Input (MMBtu/yr) * Emission Factor (lb/MMBtu) * 1/2000 (ton/lb)

Natural Gas/CO2

Test Cell Engine	Heat Input[1] (MMBtu/yr)	Emission Factor (lb/MMBtu)[2] CO2[3]	CH4	N2O	Emissions (tons/yr) CO2	CH4	N2O	CO2e
HHP1	241,173	297.21	0.00220	0.000220	35,839	0.27	0.03	35,853
HHP6	241,173	297.21	0.00220	0.000220	35,839	0.27	0.03	35,853
HHP8	241,173	297.21	0.00220	0.000220	35,839	0.27	0.03	35,853
HHP9	241,173	297.21	0.00220	0.000220	35,839	0.27	0.03	35,853
Production 1	241,173	297.21	0.00220	0.000220	35,839	0.27	0.03	35,853
Production 2	241,173	297.21	0.00220	0.000220	35,839	0.27	0.03	35,853
Production 3	241,173	297.21	0.00220	0.000220	35,839	0.27	0.03	35,853
Production 4	241,173	297.21	0.00220	0.000220	35,839	0.27	0.03	35,853
HHP7	241,173	297.21	0.00220	0.000220	35,839	0.27	0.03	35,853
HHP10	241,173	297.21	0.00220	0.000220	35,839	0.27	0.03	35,853
Total Emissions					**358,392.27**	**2.66**	**0.27**	**358,531**

1. Max fuel usage was based on testing of a 9,000 hp engine while using diesel. Diesel's heat content of 137.03 MMBtu/kgal was then used to estimate the maximum heat input capacity per test cell.
2. See natural gas combustion emission factors and calculations for all pollutants except CO2.
3. CO2 emission factor includes contribution from natural gas combustion and CO2 injected on a 60/40 CO2/NG ratio, by volume. See methodology below.

Methodology

Heat Input (MMBtu/yr) = Max Diesel Usage (kgal/yr) * 1,000 (gal/kgal) * 7.1 (lb/gal) * 19,300 (Btu/lb) / 1,000,000 (Btu/MMBtu)
Emission Factor $(lb/MMBtu_{NG})$ = Combustion Contribution (lb/MMBtu NG) + Injected CO2 (lb/MMBtu NG)

= Combustion EF (kg/MMBtu NG) / 0.45359237 (kg/lb) + 1/1020 (MMscf NG/MMBtu NG) * 1,000,000 (scf NG/MMscf NG) * (40 scf CO2/60 scf NG) * (lb-mol CO2/scf CO2) * CO2 Molecular Weight
Where, using the ideal gas law of n/V (lb-mol CO2/scf CO2) = P/RT = 1 (atm)/273.14 (K) / 1.314 ([atm*scf]/[K*lb-mol]) = 0.0028
CO2 Molecular Weight = 44.0095 lb/lb-mol

Emissions (tons/yr) = Heat Input (MMBtu NG/yr) * Emission Factor (lb/MMBtu NG) * 1/2000 (ton/lb)

Worst-case Emissions

Control Effciency (%)	NOx	SO2	VOC	PM	PM10	PM2.5	CO	Single HAP	Total HAP	CO2	CH4	N2O	CO2e
95%	**7,379.89**	**4.64**	**1,099.85**	**74.76**	**69.10**	**67.05**	**1,709.41**	**0.94**	**1.76**	**358,392.27**	**8.03**	**1.61**	**358,530.51**
	Hydrogen	Diesel/ Biodiesel	Propane	Diesel/ Biodiesel	Diesel/ Biodiesel	Diesel/ Biodiesel	Propane	Diesel/ Biodiesel	Diesel/ Biodiesel	Natural Gas/CO2	Diesel	Diesel	Natural Gas/CO2
Controlled	368.99						85.47						

Engine Test Cells
Output Rating (>600 HP, each)
Test Cells HHP1, HHP6 through HHP10, Production 1 through 4

Company Name: Cummins Inc. (Seymour Engine Plant)
Address City IN Zip: 800 E. Third Street
Operating Permit Number: 071-30358-00015
Significant Source Mod. No: 071-33555-00015
Significant Permit Mod. No: 071-33585-00015
Reviewer: Deena Patton

Diesel

Test Cell Engine	Max. Fuel Usage (kgal/yr)[1]	Emission Factors (lb/gal)[2] NOx[3]	SO2[4]	VOC	PM[5]	PM10[5]	PM2.5[5]	CO	Single HAP[6]	Total HAP[6]	CO2[7]	CH4[7]	N2O[7]
HHP1	1,760	0.320	2.08E-04	0.012	0.0085	0.0079	0.0076	0.116	1.06E-04	2.00E-04	22.50	9.13E-04	1.83E-04
HHP6	1,760	0.320	2.08E-04	0.012	0.0085	0.0079	0.0076	0.116	1.06E-04	2.00E-04	22.50	9.13E-04	1.83E-04
HHP8	1,760	0.320	2.08E-04	0.012	0.0085	0.0079	0.0076	0.116	1.06E-04	2.00E-04	22.50	9.13E-04	1.83E-04
HHP9	1,760	0.320	2.08E-04	0.012	0.0085	0.0079	0.0076	0.116	1.06E-04	2.00E-04	22.50	9.13E-04	1.83E-04
Production 1	1,760	0.320	2.08E-04	0.012	0.0085	0.0079	0.0076	0.116	1.06E-04	2.00E-04	22.50	9.13E-04	1.83E-04
Production 2	1,760	0.320	2.08E-04	0.012	0.0085	0.0079	0.0076	0.116	1.06E-04	2.00E-04	22.50	9.13E-04	1.83E-04
Production 3	1,760	0.320	2.08E-04	0.012	0.0085	0.0079	0.0076	0.116	1.06E-04	2.00E-04	22.50	9.13E-04	1.83E-04
Production 4	1,760	0.320	2.08E-04	0.012	0.0085	0.0079	0.0076	0.116	1.06E-04	2.00E-04	22.50	9.13E-04	1.83E-04
HHP7	1,760	0.320	2.08E-04	0.012	0.0085	0.0079	0.0076	0.116	1.06E-04	2.00E-04	22.50	9.13E-04	1.83E-04
HHP10	1,760	0.320	2.08E-04	0.012	0.0085	0.0079	0.0076	0.116	1.06E-04	2.00E-04	22.50	9.13E-04	1.83E-04

Test Cell Engine	Emissions (tons/yr) NOx	SO2	VOC	PM	PM10	PM2.5	CO	Single HAP	Total HAP	CO2	CH4	N2O	CO2e
HHP1	281.60	0.18	10.85	7.48	6.91	6.70	102.50	0.094	0.176	19,801	0.80	0.16	19,868
HHP6	281.60	0.18	10.85	7.48	6.91	6.70	102.50	0.094	0.176	19,801	0.80	0.16	19,868
HHP8	281.60	0.18	10.85	7.48	6.91	6.70	102.50	0.094	0.176	19,801	0.80	0.16	19,868
HHP9	281.60	0.18	10.85	7.48	6.91	6.70	102.50	0.094	0.176	19,801	0.80	0.16	19,868
Production 1	281.60	0.18	10.85	7.48	6.91	6.70	102.50	0.094	0.176	19,801	0.80	0.16	19,868
Production 2	281.60	0.18	10.85	7.48	6.91	6.70	102.50	0.094	0.176	19,801	0.80	0.16	19,868
Production 3	281.60	0.18	10.85	7.48	6.91	6.70	102.50	0.094	0.176	19,801	0.80	0.16	19,868
Production 4	281.60	0.18	10.85	7.48	6.91	6.70	102.50	0.094	0.176	19,801	0.80	0.16	19,868
HHP7	281.60	0.18	10.85	7.48	6.91	6.70	102.50	0.094	0.176	19,801	0.80	0.16	19,868
HHP10	281.60	0.18	10.85	7.48	6.91	6.70	102.50	0.094	0.176	19,801	0.80	0.16	19,868
Total Emissions	**2,816.00**	**1.83**	**108.53**	**74.76**	**69.10**	**67.05**	**1,024.98**	**0.94**	**1.76**	**198,012.64**	**8.03**	**1.61**	**198,679.29**

1. Max fuel usages evaluated based on testing of a 9,000 hp engine.
2. Emission Factors are based on AP-42 Section 3.4 (Tables 3.4-1, 3.4-2, 3.4-3, 3.4-4) and are calculated using an average heating value 19,300 Btu/lb and a density of 7.1 lb/gallon for diesel fuel per footnote a to Table 3.4-1.
3. Diesel NOx emission factor is 0.320 based on preliminary engine designs and anticipated testing regiment.
4. All SO2 emission factors based on use of ultra-low sulfur diesel (15 ppm max).
5. PM emission factor is for filterable PM. PM10/PM2.5 emission factor is for filterable PM10/PM2.5 and condensable particulate. Particle size < 3 um is used to determine filterable PM2.5.
6. Single HAP with highest emission factor is benzene. Total HAP includes pollutants with top 5 emission factors: benzene, toluene, xylenes, napthalene, and formaldehyde.
7. Emission factors for CO2, CH4, and N2O and diesel fuel heat content are based on 40 CFR 98 Subpart C (Tables C-1, C-2).

Methodology
Emissions (tons/yr) = Fuel Usage (kgal/yr) * 1000 (gal/kgal) * Emission Factor (lb/gal) * 1/2000 (ton/lb)

Engine Test Cells
Output Rating (>600 HP, each)
Test Cells HHP1, HHP6 through HHP10, Production 1 through 4

Company Name: Cummins Inc. (Seymour Engine Plant)
Address City IN Zip: 800 E. Third Street
Operating Permit Number: 071-30358-00015
Significant Source Mod. No: 071-33555-00015
Significant Permit Mod. No: 071-33585-00015
Reviewer: Deena Patton

Biodiesel

Test Cell Engine	Max. Fuel Usage (kgal/yr)[1]	Emission Factors (lb/gal)[2]											
		NOx[3]	SO2[4]	VOC	PM[5]	PM10[5]	PM2.5[5]	CO	Single HAP[6]	Total HAP[6]	CO2[7]	CH4[7]	N2O[7]
HHP1	1,760	0.339	2.08E-04	0.012	0.0085	0.0079	0.0076	0.116	1.06E-04	2.00E-04	20.837	3.10E-04	3.10E-05
HHP6	1,760	0.339	2.08E-04	0.012	0.0085	0.0079	0.0076	0.116	1.06E-04	2.00E-04	20.837	3.10E-04	3.10E-05
HHP8	1,760	0.339	2.08E-04	0.012	0.0085	0.0079	0.0076	0.116	1.06E-04	2.00E-04	20.837	3.10E-04	3.10E-05
HHP9	1,760	0.339	2.08E-04	0.012	0.0085	0.0079	0.0076	0.116	1.06E-04	2.00E-04	20.837	3.10E-04	3.10E-05
Production 1	1,760	0.339	2.08E-04	0.012	0.0085	0.0079	0.0076	0.116	1.06E-04	2.00E-04	20.837	3.10E-04	3.10E-05
Production 2	1,760	0.339	2.08E-04	0.012	0.0085	0.0079	0.0076	0.116	1.06E-04	2.00E-04	20.837	3.10E-04	3.10E-05
Production 3	1,760	0.339	2.08E-04	0.012	0.0085	0.0079	0.0076	0.116	1.06E-04	2.00E-04	20.837	3.10E-04	3.10E-05
Production 4	1,760	0.339	2.08E-04	0.012	0.0085	0.0079	0.0076	0.116	1.06E-04	2.00E-04	20.837	3.10E-04	3.10E-05
HHP7	1,760	0.339	2.08E-04	0.012	0.0085	0.0079	0.0076	0.116	1.06E-04	2.00E-04	20.837	3.10E-04	3.10E-05
HHP10	1,760	0.339	2.08E-04	0.012	0.0085	0.0079	0.0076	0.116	1.06E-04	2.00E-04	20.837	3.10E-04	3.10E-05
Total Emissions													

Test Cell Engine	Emissions (tons/yr)												
	NOx	SO2	VOC	PM	PM10	PM2.5	CO	Single HAP	Total HAP	CO2	CH4	N2O	CO2e
HHP1	297.93	0.18	10.85	7.48	6.91	6.70	102.50	0.094	0.176	18,337	0.27	0.03	18,351
HHP6	297.93	0.18	10.85	7.48	6.91	6.70	102.50	0.094	0.176	18,337	0.27	0.03	18,351
HHP8	297.93	0.18	10.85	7.48	6.91	6.70	102.50	0.094	0.176	18,337	0.27	0.03	18,351
HHP9	297.93	0.18	10.85	7.48	6.91	6.70	102.50	0.094	0.176	18,337	0.27	0.03	18,351
Production 1	297.93	0.18	10.85	7.48	6.91	6.70	102.50	0.094	0.176	18,337	0.27	0.03	18,351
Production 2	297.93	0.18	10.85	7.48	6.91	6.70	102.50	0.094	0.176	18,337	0.27	0.03	18,351
Production 3	297.93	0.18	10.85	7.48	6.91	6.70	102.50	0.094	0.176	18,337	0.27	0.03	18,351
Production 4	297.93	0.18	10.85	7.48	6.91	6.70	102.50	0.094	0.176	18,337	0.27	0.03	18,351
HHP7	297.93	0.18	10.85	7.48	6.91	6.70	102.50	0.094	0.176	18,337	0.27	0.03	18,351
HHP10	297.93	0.18	10.85	7.48	6.91	6.70	102.50	0.094	0.176	18,337	0.27	0.03	18,351
Total Emissions	**2,979.33**	**1.83**	**108.53**	**74.76**	**69.10**	**67.05**	**1,024.98**	**0.94**	**1.76**	**183,365.91**	**2.73**	**0.27**	**183,507.95**

1. Max fuel usages evaluated based on testing of a 9,000 hp engine.
2. Emission Factors are based on AP-42 Section 3.4 (Tables 3.4-1, 3.4-2, 3.4-3, 3.4-4) and are calculated using an average heating value 19,300 Btu/lb and a density of 7.1 lb/gallon for diesel fuel per footnote a to Table 3.4-1.
3. Based on "Biodiesel Handling and Use Guidelines," NREL/TP-580-30004, B100 blend of biodiesel increases NOx by 5.8%.
4. All SO2 emission factors based on use of ultra-low sulfur diesel (15 ppm max).
5. PM emission factor is for filterable PM. PM10/PM2.5 emission factor is for filterable PM10/PM2.5 and condensable particulate. Particle size < 3 um is used to determine filterable PM2.5.
6. Single HAP with highest emission factor is benzene. Total HAP includes pollutants with top 5 emission factors: benzene, toluene, xylenes, napthalene, and formaldehyde.
7. Emission factors for CO2, CH4, and N2O and biodiesel fuel heat content are based on 40 CFR 98 Subpart C (Tables C-1, C-2).

Methodology

Emissions (tons/yr) = Fuel Usage (kgal/yr) * 1000 (gal/kgal) * Emission Factor (lb/gal) * 1/2000 (ton/lb)

Natural Gas

Test Cell Engine	Heat Input[1] (MMBtu/yr)	Emission Factors (lb/MMBtu)[2]											
		NOx	SO2	VOC	PM[3]	PM10[3]	PM2.5[3]	CO	Single HAP[4]	Total HAP[4]	CO2[5]	CH4[5]	N2O[5]
HHP1	241,173	4.08	5.88E-04	0.118	0.000077	0.009987	0.009987	0.557			116.889	0.002205	0.00022
HHP6	241,173	4.08	5.88E-04	0.118	0.000077	0.009987	0.009987	0.557			116.889	0.002205	0.00022
HHP8	241,173	4.08	5.88E-04	0.118	0.000077	0.009987	0.009987	0.557			116.889	0.002205	0.00022
HHP9	241,173	4.08	5.88E-04	0.118	0.000077	0.009987	0.009987	0.557			116.889	0.002205	0.00022
Production 1	241,173	4.08	5.88E-04	0.118	0.000077	0.009987	0.009987	0.557			116.889	0.002205	0.00022
Production 2	241,173	4.08	5.88E-04	0.118	0.000077	0.009987	0.009987	0.557			116.889	0.002205	0.00022
Production 3	241,173	4.08	5.88E-04	0.118	0.000077	0.009987	0.009987	0.557			116.889	0.002205	0.00022
Production 4	241,173	4.08	5.88E-04	0.118	0.000077	0.009987	0.009987	0.557			116.889	0.002205	0.00022
HHP7	241,173	4.08	5.88E-04	0.118	0.000077	0.009987	0.009987	0.557			116.889	0.002205	0.00022
HHP10	241,173	4.08	5.88E-04	0.118	0.000077	0.009987	0.009987	0.557			116.889	0.002205	0.00022
Total Emissions													

Test Cell Engine	Emissions (tons/yr)												
	NOx	SO2	VOC	PM	PM10	PM2.5	CO	Single HAP	Total HAP	CO2	CH4	N2O	CO2e
HHP1	491.99	0.07	14.23	0.01	1.20	1.20	67.17			14,095	0.27	0.03	14,109
HHP6	491.99	0.07	14.23	0.01	1.20	1.20	67.17	-	-	14,095	0.27	0.03	14,109
HHP8	491.99	0.07	14.23	0.01	1.20	1.20	67.17	-	-	14,095	0.27	0.03	14,109
HHP9	491.99	0.07	14.23	0.01	1.20	1.20	67.17	-	-	14,095	0.27	0.03	14,109
Production 1	491.99	0.07	14.23	0.01	1.20	1.20	67.17	-	-	14,095	0.27	0.03	14,109
Production 2	491.99	0.07	14.23	0.01	1.20	1.20	67.17	-	-	14,095	0.27	0.03	14,109
Production 3	491.99	0.07	14.23	0.01	1.20	1.20	67.17	-	-	14,095	0.27	0.03	14,109
Production 4	491.99	0.07	14.23	0.01	1.20	1.20	67.17	-	-	14,095	0.27	0.03	14,109
HHP7	491.99	0.07	14.23	0.01	1.20	1.20	67.17	-	-	14,095	0.27	0.03	14,109
HHP10	491.99	0.07	14.23	0.01	1.20	1.20	67.17	-	-	14,095	0.27	0.03	14,109
Total Emissions	**4919.9251**	**0.709048**	**142.29**	**0.09**	**12.04**	**12.04**	**671.67**			**140,952**	**2.66**	**0.27**	**141,091**

1. Max fuel usage was based on testing of a 9,000 hp engine while using diesel. Diesel's heat content of 137.03 MMBtu/kgal was then used to estimate the maximum heat input capacity per test cell.
2. Emission factors from AP-42 Section 3.2 (Table 3.2-2 - uncontrolled emission factors for 4-stroke lean-burn engines), unless otherwise noted.
3. PM emission factor is for filterable PM. PM10/PM2.5 emission factor is for filterable PM10/PM2.5 and condensable particulate.
4. 071-21065-00015 states that Fuel Oil is worst case for HAPs so no calculations were completed for HAPs from Natural Gas.
5. Emission factors for CO2, CH4, and N2O are based on 40 CFR 98 Subpart C (Tables C-1, C-2).

Methodology

Heat Input (MMBtu/yr) = Max Diesel Usage (kgal/yr) * 1,000 (gal/kgal) * 7.1 (lb/gal) * 19,300 (Btu/lb) / 1,000,000 (Btu/MMBtu)

Emissions (tons/yr) = Heat Input (MMBtu/yr) * Emission Factor (lb/MMBtu) * 1/2000 (ton/lb)

Engine Test Cells
Output Rating (>600 HP, each)
Test Cells HHP1, HHP6 through HHP10, Production 1 through 4

Company Name: Cummins Inc. (Seymour Engine Plant)
Address City IN Zip: 800 E. Third Street
Operating Permit Number: 071-30358-00015
Significant Source Mod. No: 071-33555-00015
Significant Permit Mod. No: 071-33585-00015
Reviewer: Deena Patton

Propane

Test Cell Engine	Max. Fuel Usage (kgal/yr)[1]	Emission Factors (lb/kgal)[2]											
		NOx	SO2	VOC	PM	PM10	PM2.5[3]	CO	Single HAP[4]	Total HAP[4]	CO2[5]	CH4[5]	N2O[5]
HHP1	2,650	139.0	0.350	83.0	5.0	5.0	5.0	129.0			12330.1	0.602	0.120
HHP6	2,650	139.0	0.350	83.0	5.0	5.0	5.0	129.0			12330.1	0.602	0.120
HHP8	2,650	139.0	0.350	83.0	5.0	5.0	5.0	129.0			12330.1	0.602	0.120
HHP9	2,650	139.0	0.350	83.0	5.0	5.0	5.0	129.0			12330.1	0.602	0.120
Production 1	2,650	139.0	0.350	83.0	5.0	5.0	5.0	129.0			12330.1	0.602	0.120
Production 2	2,650	139.0	0.350	83.0	5.0	5.0	5.0	129.0			12330.1	0.602	0.120
Production 3	2,650	139.0	0.350	83.0	5.0	5.0	5.0	129.0			12330.1	0.602	0.120
Production 4	2,650	139.0	0.350	83.0	5.0	5.0	5.0	129.0			12330.1	0.602	0.120
HHP7	2,650	139.0	0.350	83.0	5.0	5.0	5.0	129.0			12330.1	0.602	0.120
HHP10	2,650	139.0	0.350	83.0	5.0	5.0	5.0	129.0			12330.1	0.602	0.120
Total Emissions													

Test Cell Engine	Emissions (tons/yr)												
	NOx	SO2	VOC	PM	PM10	PM2.5	CO	Single HAP	Total HAP	CO2	CH4	N2O	CO2e
HHP1	184.19	0.46	109.99	6.63	6.63	6.63	170.94	-	-	16,339	0.80	0.16	16,405
HHP6	184.19	0.46	109.99	6.63	6.63	6.63	170.94	-	-	16,339	0.80	0.16	16,405
HHP8	184.19	0.46	109.99	6.63	6.63	6.63	170.94	-	-	16,339	0.80	0.16	16,405
HHP9	184.19	0.46	109.99	6.63	6.63	6.63	170.94	-	-	16,339	0.80	0.16	16,405
Production 1	184.19	0.46	109.99	6.63	6.63	6.63	170.94	-	-	16,339	0.80	0.16	16,405
Production 2	184.19	0.46	109.99	6.63	6.63	6.63	170.94	-	-	16,339	0.80	0.16	16,405
Production 3	184.19	0.46	109.99	6.63	6.63	6.63	170.94	-	-	16,339	0.80	0.16	16,405
Production 4	184.19	0.46	109.99	6.63	6.63	6.63	170.94	-	-	16,339	0.80	0.16	16,405
HHP7	184.19	0.46	109.99	6.63	6.63	6.63	170.94	-	-	16,339	0.80	0.16	16,405
HHP10	184.19	0.46	109.99	6.63	6.63	6.63	170.94	-	-	16,339	0.80	0.16	16,405
Total Emissions	**1,841.92**	**4.64**	**1,099.85**	**66.26**	**66.26**	**66.26**	**1,709.41**			**163,389.88**	**7.98**	**1.60**	**164,051.84**

1. Max fuel usage was based on testing of a 9,000 hp engine while using diesel. Because propane's heat content is lower than natural gas, it takes 1.506 times more propane than natural gas to achieve the same annual heat input capacity.
2. Emission factors from Cummins CTC - Plant 5 engine test cell emission factors for LPG from TSD to permit T005-7466-00002, unless otherwise noted.
3. PM10 assumed equal to PM2.5 emission factor.
4. 071-21065-00015 states that Fuel Oil is worst case for HAPs so no calculations were completed for HAPs from Propane.
5. Emission factors for CO2, CH4, and N2O and propane heat content are based on 40 CFR 98 Subpart C (Tables C-1, C-2).

Methodology

Fuel Usage (kgal/yr) = Max Diesel Usage (kgal/yr) * 1,000 (gal/kgal) * 7.1 $(lb/gal)_{diesel}$ * 19,300 $(Btu/lb)_{diesel}$ / 1,000,000 (Btu/MMBtu) / [0.091 $(MMBtu/gal)_{propane}$ *1,000 (gal/kgal)]

Emissions (tons/yr) = Max Fuel Usage (kgal/yr) * Emission Factor (lb/kgal) * 1/2000 (ton/lb)

Hydrogen

Test Cell Engine	Heat Input[1] (MMBtu/yr)	Emission Factors (lb/MMBtu)[2]		Emissions (tons/yr)		
		NOx	N2O[3]	NOx	N2O	CO2e
HHP1	241,173	6.12	0.00033	737.99	0.040	12
HHP6	241,173	6.12	0.00033	737.99	0.040	12
HHP8	241,173	6.12	0.00033	737.99	0.040	12
HHP9	241,173	6.12	0.00033	737.99	0.040	12
Production 1	241,173	6.12	0.00033	737.99	0.040	12
Production 2	241,173	6.12	0.00033	737.99	0.040	12
Production 3	241,173	6.12	0.00033	737.99	0.040	12
Production 4	241,173	6.12	0.00033	737.99	0.040	12
HHP7	241,173	6.12	0.00033	737.99	0.040	12
HHP10	241,173	6.12	0.00033	737.99	0.040	12
Total Emissions				**7,379.89**	**0.40**	**123.62**

1. Max fuel usage was based on testing of a 9,000 hp engine while using diesel. Diesel's heat content of 137.03 MMBtu/kgal was then used to estimate the maximum heat input capacity per test cell.
2. Emission factors from AP-42 Section 3.2 (Table 3.2-2 - uncontrolled emission factors for 4-stroke lean-burn engines) assuming NOx emitted at a rate 50% greater than NG based on higher combustion temperature of hydrogen versus natural gas.
3. Emission factor for N2O is based on 40 CFR 98 Subpart C (Tables C-1, C-2) emitted at a rate 50% greater than NG based on higher combustion temperature of hydrogen versus natural gas.

Methodology

Heat Input (MMBtu/yr) = Max Diesel Usage (kgal/yr) * 1,000 (gal/kgal) * 7.1 (lb/gal) * 19,300 (Btu/lb) / 1,000,000 (Btu/MMBtu)

Emissions (tons/yr) = Heat Input (MMBtu/yr) * Emission Factor (lb/MMBtu) * 1/2000 (ton/lb)

Engine Test Cells
Output Rating (>600 HP, each)
Test Cells HHP1, HHP6 through HHP10, Production 1 through 4

Company Name: Cummins Inc. (Seymour Engine Plant)
Address City IN Zip: 800 E. Third Street
Operating Permit Number: 071-30358-00015
Significant Source Mod. No: 071-33555-00015
Significant Permit Mod. No: 071-33585-00015
Reviewer: Deena Patton

Natural Gas/CO2

Test Cell Engine	Heat Input[1] (MMBtu/yr)	Emission Factor (lb/MMBtu)[2]			Emissions (tons/yr)			
		CO2[3]	CH4	N2O	CO2	CH4	N2O	CO2e
HHP1	241,173	297.21	0.00220	0.000220	35,839	0.27	0.03	35,853
HHP6	241,173	297.21	0.00220	0.000220	35,839	0.27	0.03	35,853
HHP8	241,173	297.21	0.00220	0.000220	35,839	0.27	0.03	35,853
HHP9	241,173	297.21	0.00220	0.000220	35,839	0.27	0.03	35,853
Production 1	241,173	297.21	0.00220	0.000220	35,839	0.27	0.03	35,853
Production 2	241,173	297.21	0.00220	0.000220	35,839	0.27	0.03	35,853
Production 3	241,173	297.21	0.00220	0.000220	35,839	0.27	0.03	35,853
Production 4	241,173	297.21	0.00220	0.000220	35,839	0.27	0.03	35,853
HHP7	241,173	297.21	0.00220	0.000220	35,839	0.27	0.03	35,853
HHP10	241,173	297.21	0.00220	0.000220	35,839	0.27	0.03	35,853
Total Emissions					**358,392.27**	**2.66**	**0.27**	**358,531**

1. Max fuel usage was based on testing of a 9,000 hp engine while using diesel. Diesel's heat content of 137.03 MMBtu/kgal was then used to estimate the maximum heat input capacity per test cell.
2. See natural gas combustion emission factors and calculations for all pollutants except CO2.
3. CO2 emission factor includes contribution from natural gas combustion and CO2 injected on a 60/40 CO2/NG ratio, by volume. See methodology below.

Methodology

Heat Input (MMBtu/yr) = Max Diesel Usage (kgal/yr) * 1,000 (gal/kgal) * 7.1 (lb/gal) * 19,300 (Btu/lb) / 1,000,000 (Btu/MMBtu)

Emission Factor (lb/$MMBtu_{NG}$) = Combustion Contribution (lb/MMBtu NG) + Injected CO2 (lb/MMBtu NG)

= Combustion EF (kg/MMBtu NG) / 0.45359237 (kg/lb) + 1/1020 (MMscf NG/MMBtu NG) * 1,000,000 (scf NG/MMscf NG) * (40 scf CO2/60 scf NG) * (lb-mol CO2/scf CO2) * CO2 Molecular Weight

Where, using the ideal gas law of n/V (lb-mol CO2/scf CO2) = P/RT = 1 (atm)/273.14 (K) / 1.314 ([atm*scf]/[K*lb-mol]) = 0.0028

CO2 Molecular Weight = 44.0095 lb/lb-mol

Emissions (tons/yr) = Heat Input (MMBtu NG/yr) * Emission Factor (lb/MMBtu NG) * 1/2000 (ton/lb)

Worst-case Emissions

NOx	SO2	VOC	PM	PM10	PM2.5	CO	Single HAP	Total HAP	CO2	CH4	N2O	CO2e
7,379.89	**4.64**	**1,099.85**	**74.76**	**69.10**	**67.05**	**1,709.41**	**0.94**	**1.76**	**358,392.27**	**8.03**	**1.61**	**358,530.51**
Hydrogen	Diesel/ Biodiesel	Propane	Diesel/ Biodiesel	Diesel/ Biodiesel	Diesel/ Biodiesel	Propane	Diesel/ Biodiesel	Diesel/ Biodiesel	Natural Gas/CO2	Diesel	Diesel	Natural Gas/CO2

Engine Test Cells
Output Rating (>600 HP, each)
Test Cells EU-02A (801, 802, 803, 804, 805, 808) (c1978)
Test Cells EU-02B (806, 807, HHP2, HHP3, HHP5, TP8, TP10, TP11, HHP4) (c1978)
Test Cell EU-02C (TP9) (c2005)
Company Name: Cummins Inc. (Seymour Engine Plant)
Address City IN Zip: 800 E. Third Street
Operating Permit Number: 071-30358-00015
Significant Source Mod. No: 071-33555-00015
Significant Permit Mod. No: 071-33585-00015
Reviewer: Deena Patton

Diesel

	Max. Usage	Heat Input	Rating	Emission Factors (lb/gal)									Emission Factors (lb/MMBtu)		
Test Cell Engine	kgal/yr	MMBtu/hr	hp-hr	**CO**	**NO_X**	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**VOC**	**Single HAP**	**Total HAP**	**CO_2**	**CH_4**	**N_2O**
801	444	7.00	1,000	0.13	0.427	0.0085	0.0079	0.0076	0.0397	0.0493	1.53E-04	5.03E-04	165	8.10E-03	1.32E-03
802	444	7.00	1,000	0.13	0.427	0.0085	0.0079	0.0076	0.0397	0.0493	1.53E-04	5.03E-04	165	8.10E-03	1.32E-03
803	732	11.55	1,650	0.13	0.427	0.0085	0.0079	0.0076	0.0397	0.0493	1.53E-04	5.03E-04	165	8.10E-03	1.32E-03
804	732	11.55	1,650	0.13	0.427	0.0085	0.0079	0.0076	0.0397	0.0493	1.53E-04	5.03E-04	165	8.10E-03	1.32E-03
805	732	11.55	1,650	0.13	0.427	0.0085	0.0079	0.0076	0.0397	0.0493	1.53E-04	5.03E-04	165	8.10E-03	1.32E-03
808	732	11.55	1,650	0.13	0.427	0.0085	0.0079	0.0076	0.0397	0.0493	1.53E-04	5.03E-04	165	8.10E-03	1.32E-03
806	798	12.60	1,800	0.13	0.155	0.0085	0.0079	0.0076	0.0397	0.0493	1.53E-04	5.03E-04	165	8.10E-03	1.32E-03
807	798	12.60	1,800	0.13	0.155	0.0085	0.0079	0.0076	0.0397	0.0493	1.53E-04	5.03E-04	165	8.10E-03	1.32E-03
HHP2	1,996	31.50	4,500	0.13	0.155	0.0085	0.0079	0.0076	0.0397	0.0493	1.53E-04	5.03E-04	165	8.10E-03	1.32E-03
HHP3	1,996	31.50	4,500	0.13	0.155	0.0085	0.0079	0.0076	0.0397	0.0493	1.53E-04	5.03E-04	165	8.10E-03	1.32E-03
HHP5	976	15.40	2,200	0.13	0.155	0.0085	0.0079	0.0076	0.0397	0.0493	1.53E-04	5.03E-04	165	8.10E-03	1.32E-03
Test Pad 8	1,331	21.00	3,000	0.13	0.155	0.0085	0.0079	0.0076	0.0397	0.0493	1.53E-04	5.03E-04	165	8.10E-03	1.32E-03
Test Pad 10	820	12.95	1,850	0.13	0.155	0.0085	0.0079	0.0076	0.0397	0.0493	1.53E-04	5.03E-04	165	8.10E-03	1.32E-03
Test Pad 11	820	12.95	1,850	0.13	0.155	0.0085	0.0079	0.0076	0.0397	0.0493	1.53E-04	5.03E-04	165	8.10E-03	1.32E-03
HHP4	976	15.40	2,200	0.13	0.155	0.0085	0.0079	0.0076	0.0397	0.0493	1.53E-04	5.03E-04	165	8.10E-03	1.32E-03
Test Pad 9	1,996	31.50	4,500	0.13	0.155	0.0085	0.0079	0.0076	0.0397	0.0493	1.53E-04	5.03E-04	165	8.10E-03	1.32E-03

Total:	16,321	257.60	36,800
EU-02A total	3,814	60.20	8,600
EU-02B total	10,511	165.90	23,700
EU-02C total	1,996	31.50	4,500

Methodology
Emission factors are based on T071-27977-00015 and T071-21065-00015
Emissions (tons/yr) = Diesel Fuel Usage (kgal/yr) x 1000 (gal/kgal) x Emission Factor (lb/gal) x 1/2000 (ton/lb)

1 hp-hr = 7,000 Btu
1 gal diesel = 138,261 Btu

		Emissions from Diesel Fuel Combustion (tons/yr)									
		CO	**NO_X**	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**VOC**	**Single HAP**	**Total HAP**	**CO_2e**
EU-02	801	28.83	94.69	1.88	1.75	1.69	8.80	10.93	0.03	0.11	5,077
	802	28.83	94.69	1.88	1.75	1.69	8.80	10.93	0.03	0.11	5,077
	803	47.57	156.24	3.11	2.89	2.78	14.53	18.04	0.06	0.18	8,377
	804	47.57	156.24	3.11	2.89	2.78	14.53	18.04	0.06	0.18	8,377
	805	47.57	156.24	3.11	2.89	2.78	14.53	18.04	0.06	0.18	8,377
	808	47.57	156.24	3.11	2.89	2.78	14.53	18.04	0.06	0.18	8,377
EU-02B	806	51.89	61.87	3.39	3.15	3.03	15.85	19.68	0.06	0.20	9,138
	807	51.89	61.87	3.39	3.15	3.03	15.85	19.68	0.06	0.20	9,138
	HHP2	129.73	154.67	8.48	7.88	7.58	39.62	49.20	0.15	0.50	22,845
	HHP3	129.73	154.67	8.48	7.88	7.58	39.62	49.20	0.15	0.50	22,845
	HHP5	63.42	75.62	4.15	3.85	3.71	19.37	24.05	0.07	0.25	11,169
	Test Pad 8	86.48	103.12	5.65	5.26	5.06	26.41	32.80	0.10	0.33	15,230
	Test Pad 10	53.33	63.59	3.49	3.24	3.12	16.29	20.23	0.06	0.21	9,392
	Test Pad 11	53.33	63.59	3.49	3.24	3.12	16.29	20.23	0.06	0.21	9,392
	HHP4	63.42	75.62	4.15	3.85	3.71	19.37	24.05	0.07	0.25	11,169
EU-02C	Test Pad 9	129.73	154.67	8.48	7.88	7.58	39.62	49.20	0.15	0.50	22,845
	TOTAL	**1,060.87**	**1,783.62**	**69.36**	**64.47**	**62.02**	**323.97**	**402.32**	**1.25**	**4.11**	**186,822**
	EU-02A total	247.92	814.33	16.21	15.07	14.49	75.71	94.02	0.29	0.96	43,660
	EU-02B total	683.23	814.62	44.67	41.52	39.94	208.65	259.10	0.81	2.65	120,317
	EU-02C total	129.73	154.67	8.48	7.88	7.58	39.62	49.20	0.15	0.50	22,845

Biodiesel

	Max. Usage	Heat Input	Rating	Emission Factors (lb/gal)									Emission Factors (lb/MMBtu)		
Test Cell Engine	kgal/yr	MMBtu/hr	hp-hr	**CO**	**NO_X**	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**VOC**	**Single HAP**	**Total HAP**	**CO_2**	**CH_4**	**N_2O**
806	798	12.60	1,800	0.13	1.64E-01	0.0085	0.0079	0.0076	0.0397	0.0493	1.53E-04	5.03E-04	165	8.10E-03	1.32E-03
807	798	12.60	1,800	0.13	1.64E-01	0.0085	0.0079	0.0076	0.0397	0.0493	1.53E-04	5.03E-04	165	8.10E-03	1.32E-03
HHP2	1,996	31.50	4,500	0.13	1.64E-01	0.0085	0.0079	0.0076	0.0397	0.0493	1.53E-04	5.03E-04	165	8.10E-03	1.32E-03
HHP3	1,996	31.50	4,500	0.13	1.64E-01	0.0085	0.0079	0.0076	0.0397	0.0493	1.53E-04	5.03E-04	165	8.10E-03	1.32E-03
HHP5	976	15.40	2,200	0.13	1.64E-01	0.0085	0.0079	0.0076	0.0397	0.0493	1.53E-04	5.03E-04	165	8.10E-03	1.32E-03
Test Pad 8	1,331	21.00	3,000	0.13	1.64E-01	0.0085	0.0079	0.0076	0.0397	0.0493	1.53E-04	5.03E-04	165	8.10E-03	1.32E-03
Test Pad 10	820	12.95	1,850	0.13	1.64E-01	0.0085	0.0079	0.0076	0.0397	0.0493	1.53E-04	5.03E-04	165	8.10E-03	1.32E-03
Test Pad 11	820	12.95	1,850	0.13	1.64E-01	0.0085	0.0079	0.0076	0.0397	0.0493	1.53E-04	5.03E-04	165	8.10E-03	1.32E-03
HHP4	976	15.40	2,200	0.13	1.64E-01	0.0085	0.0079	0.0076	0.0397	0.0493	1.53E-04	5.03E-04	165	8.10E-03	1.32E-03
Test Pad 9	1,996	31.50	4,500	0.13	1.64E-01	0.0085	0.0079	0.0076	0.0397	0.0493	1.53E-04	5.03E-04	165	8.10E-03	1.32E-03

Total:	12,507	197.40	28,200
EU-02A total	0	0	0
EU-02B total	10,511	165.90	23,700
EU-02C total	1,996	31.50	4,500

Methodology
Emission factors are based on T071-27977-00015 and T071-21065-00015
Emissions (tons/yr) = Biodiesel Fuel Usage (kgal/yr) x 1000 (gal/kgal) x Emission Factor (lb/gal) x 1/2000 (ton/lb)

1 gal biodiesel = 138,261 Btu

		Emissions from Biodiesel Fuel Combustion (tons/yr)									
		CO	**NO_X**	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**VOC**	**Single HAP**	**Total HAP**	**CO_2e**
EU-02B	806	51.89	65.46	3.39	3.15	3.03	15.85	19.68	0.06	0.20	9,138
	807	51.89	65.46	3.39	3.15	3.03	15.85	19.68	0.06	0.20	9,138
	HHP2	129.73	163.64	8.48	7.88	7.58	39.62	49.20	0.15	0.50	22,845
	HHP3	129.73	163.64	8.48	7.88	7.58	39.62	49.20	0.15	0.50	22,845
	HHP5	63.42	80.00	4.15	3.85	3.71	19.37	24.05	0.07	0.25	11,169
	Test Pad 8	86.48	109.10	5.65	5.26	5.06	26.41	32.80	0.10	0.33	15,230
	Test Pad 10	53.33	67.28	3.49	3.24	3.12	16.29	20.23	0.06	0.21	9,392
	Test Pad 11	53.33	67.28	3.49	3.24	3.12	16.29	20.23	0.06	0.21	9,392
	HHP4	63.42	80.00	4.15	3.85	3.71	19.37	24.05	0.07	0.25	11,169
EU-02C	Test Pad 9	129.73	163.64	8.48	7.88	7.58	39.62	49.20	0.15	0.50	22,845
	TOTAL	**812.95**	**1,025.51**	**53.15**	**49.40**	**47.53**	**248.26**	**308.30**	**0.96**	**3.15**	**143,163**
	EU-02B total	683.23	861.86	44.67	41.52	39.94	208.65	259.10	0.81	2.65	120,317
	EU-02C total	129.73	163.64	8.48	7.88	7.58	39.62	49.20	0.15	0.50	22,845

Engine Test Cells
Output Rating (>600 HP, each)
Test Cells EU-02A (801, 802, 803, 804, 805, 808) (c1978)
Test Cells EU-02B (806, 807, HHP2, HHP3, HHP5, TP8, TP10, TP11, HHP4) (c1978)
Test Cell EU-02C (TP9) (c2005)

Company Name: Cummins Inc. (Seymour Engine Plant)
Address City IN Zip: 800 E. Third Street
Operating Permit Number: 071-30358-00015
Significant Source Mod. No: 071-33555-00015
Significant Permit Mod. No: 071-33585-00015
Reviewer: Deena Patton

Propane

	Max. Usage	Heat Input	Rating	Emission Factors (lb/gal)							Emission Factors (lb/kgal)		
Test Cell Engine	kgal/yr	MMBtu/hr	hp	**CO**	**NO_X**	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**VOC**	**CO_2**	**CH_4**	**N_2O**
806	1,174	12.60	1,800	0.129	0.139	0.005	0.005	0.005	3.50E-04	8.30E-02	12,500	0.2	0.9
807	1,174	12.60	1,800	0.129	0.139	0.005	0.005	0.005	3.50E-04	8.30E-02	12,500	0.2	0.9
HHP3	2,936	31.50	4,500	0.129	0.139	0.005	0.005	0.005	3.50E-04	8.30E-02	12,500	0.2	0.9
HHP5	391	4.20	600	0.129	0.139	0.005	0.005	0.005	3.50E-04	8.30E-02	12,500	0.2	0.9
Test Pad 8	1,435	15.40	2,200	0.129	0.139	0.005	0.005	0.005	3.50E-04	8.30E-02	12,500	0.2	0.9
Test Pad 10	1,207	12.95	1,850	0.129	0.139	0.005	0.005	0.005	3.50E-04	8.30E-02	12,500	0.2	0.9
Test Pad 11	1,207	12.95	1,850	0.129	0.139	0.005	0.005	0.005	3.50E-04	8.30E-02	12,500	0.2	0.9
HHP4	1,435	15.40	2,200	0.129	0.139	0.005	0.005	0.005	3.50E-04	8.30E-02	12,500	0.2	0.9
Test Pad 9	1,435	15.40	2,200	0.129	0.139	0.005	0.005	0.005	3.50E-04	8.30E-02	12,500	0.2	0.9
Total:	12,394	133.00	19,000										
EU-02A total	0	0	0										
EU-02B total	10,959	117.60	16,800										
EU-02C total	1,435	15.40	2,200										

Methodology
Emission factors are based on T071-27977-00015 and T071-21065-00015
Emissions (tons/yr) = LPG Fuel Usage (kgal/yr) x 1000 (gal/kgal) x Emission Factor (lb/gal) x 1/2000 (ton/lb
Propane (LPG) is considered a clean fuel with regard to HAPs; therefore HAP emissions are assumed to be zero

1 gal propane = 94,000 Btu

		Emissions from Propane Combustion (tons/yr)							
		CO	**NO_X**	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**VOC**	**CO_2e**
EU-02B	806	75.74	81.61	2.94	2.94	2.94	0.21	48.73	7,505
	807	75.74	81.61	2.94	2.94	2.94	0.21	48.73	7,505
	HHP3	189.34	204.02	7.34	7.34	7.34	0.51	121.82	18,763
	HHP5	25.25	27.20	0.98	0.98	0.98	0.07	16.24	2,502
	Test Pad 8	92.57	99.74	3.59	3.59	3.59	0.25	59.56	9,173
	Test Pad 10	77.84	83.87	3.02	3.02	3.02	0.21	50.08	7,714
	Test Pad 11	77.84	83.87	3.02	3.02	3.02	0.21	50.08	7,714
	HHP4	92.57	99.74	3.59	3.59	3.59	0.25	59.56	9,173
EU-02C	Test Pad 9	92.57	99.74	3.59	3.59	3.59	0.25	59.56	9,173
	TOTAL	**799.44**	**861.42**	**30.99**	**30.99**	**30.99**	**2.17**	**514.37**	**79,220**
	EU-02B total	706.88	761.67	27.40	27.40	27.40	1.92	454.81	70,048
	EU-02C total	92.57	99.74	3.59	3.59	3.59	0.25	59.56	9,173

Natural Gas

	Max. Usage	Heat Input	Rating	Emission Factors (lb/MMBtu)*									Emission Factors (lb/MMBtu)		
Test Cell Engine	MMCF/yr	MMBtu/hr	hp	**CO**	**NO_X**	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**VOC**	**Single HAP**	**Total HAP**	**CO_2**	**CH_4**	**N_2O**
808	35	4.20	600	0.317	4.08	9.91E-03	7.71E-05	7.71E-05	5.88E-04	0.118	1.50E-02	1.50E-02	120,000	2.3	2.2
806	105	12.60	1,800	0.317	4.08	9.91E-03	7.71E-05	7.71E-05	5.88E-04	0.118	1.50E-02	1.50E-02	120,000	2.3	2.2
807	105	12.60	1,800	0.317	4.08	9.91E-03	7.71E-05	7.71E-05	5.88E-04	0.118	1.50E-02	1.50E-02	120,000	2.3	2.2
HHP3	263	31.50	4,500	0.317	4.08	9.91E-03	7.71E-05	7.71E-05	5.88E-04	0.118	1.50E-02	1.50E-02	120,000	2.3	2.2
HHP5	35	4.20	600	0.317	4.08	9.91E-03	7.71E-05	7.71E-05	5.88E-04	0.118	1.50E-02	1.50E-02	120,000	2.3	2.2
Test Pad 8	128	15.40	2,200	0.317	4.08	9.91E-03	7.71E-05	7.71E-05	5.88E-04	0.118	1.50E-02	1.50E-02	120,000	2.3	2.2
Test Pad 10	108	12.95	1,850	0.317	4.08	9.91E-03	7.71E-05	7.71E-05	5.88E-04	0.118	1.50E-02	1.50E-02	120,000	2.3	2.2
Test Pad 11	108	12.95	1,850	0.317	4.08	9.91E-03	7.71E-05	7.71E-05	5.88E-04	0.118	1.50E-02	1.50E-02	120,000	2.3	2.2
HHP4	128	15.40	2,200	0.317	4.08	9.91E-03	7.71E-05	7.71E-05	5.88E-04	0.118	1.50E-02	1.50E-02	120,000	2.3	2.2
Test Pad 9	128	15.40	2,200	0.317	4.08	9.91E-03	7.71E-05	7.71E-05	5.88E-04	0.118	1.50E-02	1.50E-02	120,000	2.3	2.2
Total:	1,145	137.20	19,600												
EU-02A total	35	4.20	600												
EU-02B total	981	117.60	16,800												
EU-02C total	128	15.40	2,200												

Methodology
Emission factors are based on T071-27977-00015 and T071-21065-00015
Emissions (tons/yr) = Heat Input (MMBtu/hr) x Emission Factor (lb/MMBtu) x 1/2000 (ton/lb) x 8760 (hr/y

1 CF nat. gas = 1050 Btu

		Emissions from Natural Gas Combustion (tons/yr)									
		CO	**NO_X**	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**VOC**	**Single HAP**	**Total HAP**	**CO_2e**
EU-02A	808	5.83	75.06	0.18	1.42E-03	1.42E-03	0.01	2.17	0.28	0.28	2,220,955
EU-02B	806	17.49	225.17	0.55	4.25E-03	4.25E-03	0.03	6.51	0.83	0.83	6,662,864
	807	17.49	225.17	0.55	4.25E-03	4.25E-03	0.03	6.51	0.83	0.83	6,662,864
	HHP3	43.74	562.92	1.37	1.06E-02	1.06E-02	0.08	16.28	2.07	2.07	16,657,159
	HHP5	5.83	75.06	0.18	1.42E-03	1.42E-03	0.01	2.17	0.28	0.28	2,220,955
	Test Pad 8	21.38	275.20	0.67	5.20E-03	5.20E-03	0.04	7.96	1.01	1.01	8,143,500
	Test Pad 10	17.98	231.42	0.56	4.37E-03	4.37E-03	0.03	6.69	0.85	0.85	6,847,943
	Test Pad 11	17.98	231.42	0.56	4.37E-03	4.37E-03	0.03	6.69	0.85	0.85	6,847,943
	HHP4	21.38	275.20	0.67	5.20E-03	5.20E-03	0.04	7.96	1.01	1.01	8,143,500
EU-02C	Test Pad 9	21.38	275.20	0.67	5.20E-03	5.20E-03	0.04	7.96	1.01	1.01	8,143,500
	TOTAL	**190.50**	**2,451.82**	**5.96**	**0.05**	**0.05**	**0.35**	**70.91**	**9.01**	**9.01**	**72,551,184**
	EU-02A total	5.83	75.06	0.18	0.00	0.00	0.01	2.17	0.28	0.28	2,220,955
	EU-02B total	163.28	2101.56	5.10	0.04	0.04	0.30	60.78	7.73	7.73	62,186,729
	EU-02C total	21.38	275.20	0.67	0.01	0.01	0.04	7.96	1.01	1.01	8,143,500

	Worst-case Emissions (ton/yr)									
	CO	**NO_X**	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**VOC**	**Single HAP**	**Total HAP**	**CO_2e**
TOTAL	**1,060.87**	**2,451.82**	**69.36**	**64.47**	**62.02**	**323.97**	**514.37**	**9.01**	**9.01**	**72,551,184**
EU-02A total	247.92	814.33	16.21	15.07	14.49	75.71	94.02	0.29	0.96	2,220,955
EU-02B total	706.88	2,101.56	44.67	41.52	39.94	208.65	454.81	7.73	7.73	62,186,729
EU-02C total	129.73	275.20	8.48	7.88	7.58	39.62	59.56	1.01	1.01	8,143,500
Worst Fuel Type	Diesel	Natural Gas	Jet	Jet	Jet	Diesel	Diesel	Diesel	Diesel	Diesel

Methodology
Emission Factors are from AP 42 (Supplement B 10/96) Tables 3.4-1 , 3.4-2, 3.4-3, and 3.4-4.
CH_4 and N_2O Emission Factor from 40 CFR 98 Subpart C Table C-2.
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Potential Throughput (MMBtu/yr) = [Heat Input Capacity (MMBtu/hr)] x [Maximum Hours Operated per Yea
Potential Emission (tons/yr) = [Potential Throughput (MMBtu/yr)] x [Emission Factor (lb/MMBtu)] / [2,000 lb/to
CO_2e (tons/yr) = CO_2 Potential Emission ton/yr x CO_2 GWP + CH_4 Potential Emission ton/yr x CH_4 GWP + N_2O Potential Emission ton/yr x N_2O GWP.

Greenhouse Gases		
Global Warming Potential (GWP)		
CO_2	**CH_4**	**N_2O**
1	21	310

Appendix A: Emissions Calculations
Potential to Emit form SEP HH Block Line

Company Name: Cummins Inc. (Seymour Engine Plant)
Address City IN Zip: 800 E. Third Street
Operating Permit Number: 071-30358-00015
Significant Source Mod. No: 071-33555-00015
Significant Permit Mod. No: 071-33585-00015
Reviewer: Deena Patton

Particulate Emissions

Process	Inlet Grain Loading (gr/dscf)	Demister control efficiency (%)	Air Flow (acfm)	Uncontrolled Emission Factor (lb/hr)	Hours per cycle	Max cylces per day	Max Hours of Operation per day	Potential Uncontrolled Emissions (lb/day)	Potential Controlled Emissions (lb/day)	Potential Uncontrolled Emissions (ton/yr)	Potential Controlled Emissons (ton/yr)
Machining	0.009	98%	4000	0.309	6.00	3.00	18.00	5.56	0.11	1.015	0.020
Machining	0.009	98%	4000	0.309	6.00	3.00	18.00	5.56	0.11	1.015	0.020
Machining	0.009	98%	4000	0.309	6.00	3.00	18.00	5.56	0.11	1.015	0.020
Machining	0.009	98%	4000	0.309	6.00	3.00	18.00	5.56	0.11	1.015	0.020
Washing	0.009	80%	3000	0.231	1.00	3.00	3.00	0.69	0.14	0.126	0.025
Total								**22.94**	**0.58**	**4.187**	**0.106**

Methodology:
Potential Uncontrolled Emissions (lb/day) = Uncontrolled Emission Factor (lb/hr) * Max hours of Operation per day
Potential Controlled Emissions (lb/day) = Potential Uncontrolled Emissions (lb/day) * (1- Control Efficiency (%))
Uncontrolled Emissions = Potential Uncontrolled Emissions (lb/hr) * 365 days/ yr * 1 ton/ 2000 lb
Controlled Emissions = Potential Uncontrolled Emissions (ton/yr) * (1 - Demister Control efficiency (%))
Inlet grain loading from Chrysler Kokomo stack tests performed May 2002 and back calculateing based on grain loading.
Machining operations ducted internally.
Washing operations ducted externally.

Company Name: **Cummins Inc. (Seymour Engine Plant)**
Address City IN Zip: **800 E. Third Street**
Permit Number: **071-33400-00015**
Reviewer: **Deena Patton**

Table B-3: PTE for VOC emissions from SEP HH Block Line
Cummins, Inc. Seymour Engine Plant
Application for Administrative Permit Amendment - Hedgehog Block Line Facility
Operation Permit No: T071-30358-00015

Coolant

Semi-Kut 60	Max concentration by volume	Specific gravity	Density lb/gal	lb/gal of material
Napthenic base oil	15%	0.785	6.55	0.98
Triethanol amine	10%	1.124	9.37	0.94
Hexahydro Triazine	5%	1.16	9.67	0.48
Borate amine	10%	1.1	9.17	0.92
Total VOC content	40%			3.32

Specific gravity 1.00

Washing

Kleen-Eze 440C	Max concentration by volume	Specific gravity	Density lb/gal	lb/gal of material
Triethanolamine	5%	1.124	9.37	0.47
Monoethanolamine	5%	1.012	8.44	0.42
Borate amine	10%	1.1	9.17	0.92
Total VOC content	20%			1.81

Specific gravity 1.05

Emissions

Material	Usage (gallon/yr) - 238 days per year	PTE VOC emissions (ton/yr)	PTE VOC emissions - 365 days (ton/yr)
Semi-Kut 60 coolant	1800	2.99	4.59
Kleen-Eze 440C soap	900	0.81	1.24
Total		**3.8**	**5.83**

Methodology
Material usage based on maximum number of engine blocks for 238 days per year. PTE extrapolated to 365 days per year.
VOC emissions = Total VOC content in lb/gallon x number of gallons of material consumed per year * ton/2000 lb

Appendix A: Emission Calculations
Reciprocating Internal Combustion Engines - Diesel Fuel

Company Name: Cummins Inc. (Seymour Engine Plant)
Address City IN Zip: 800 E. Third Street
Permit Number: 071-33400-00015
Reviewer: Deena Patton

Table B-5: PTE for Diesel-fired Engines
Cummins, Inc. Seymour Engine Plant
Application for Administrative Permit Amendment - Hedgehog Block Line Facility
Operation Permit No: T071-30358-00015

Unit ID	Emergency generator			Fire pump			Total emissions
Capacity (hp)			1482			175	
Capacity fuel (gal/hr)			72.2			9.8	
Capacity heat input			9.89			1.34	
Criteria pollutants	Emission factor		PTE (ton/yr)	Emission factor		PTE (ton/yr)	PTE (ton/yr)
CO	0.522	g/bhp-hr	0.43	1.1931	g/bhp-hr	0.11	0.54
NOx	4.2281	g/bhp-hr	3.45	2.61	g/bhp-hr	0.25	3.7
PM	0.0969	g/bhp-hr	0.08	0.1268	g/bhp-hr	0.01	0.09
PM10	0.0969	g/bhp-hr	0.08	0.1268	g/bhp-hr	0.01	0.09
PM2.5	0.0969	g/bhp-hr	0.08	0.1268	g/bhp-hr	0.01	0.09
SO_2	0.007	lb/gal	0.13	0.00021	lb/gal	0.00	0.13
VOC	0.179	g/bhp-hr	0.15	0.075	g/bhp-hr	0.01	0.16
HAPs	Emission factor		PTE (ton/yr)	Emission factor		PTE (ton/yr)	PTE (ton/yr)
Benzene	0.000776	lb/MMBtu	0.00E+00	0.000933	lb/MMBtu	0.00E+00	0.00E+00
Toluene	0.000281	lb/MMBtu	0.00E+00	0.000409	lb/MMBtu	0.00E+00	0.00E+00
Xylene	0.000193	lb/MMBtu	0.00E+00	0.000285	lb/MMBtu	0.00E+00	0.00E+00
Formaldehyde	0.0000789	lb/MMBtu	0.00E+00	0.00118	lb/MMBtu	0.00E+00	0.00E+00
Acetaldehyde	0.0000252	lb/MMBtu	0.00E+00	0.000767	lb/MMBtu	0.00E+00	0.00E+00
Total PAH				0.000168	lb/MMBtu	0.00E+00	0.00E+00
Total HAPs			0.00E+00			0.00E+00	0.00E+00
Greenhouse gases	Emission factor		PTE (ton/yr)	Emission factor		PTE (ton/yr)	PTE (ton/yr)
CO_2	483.5119	g/bhp-hr	394.58	604.017	g/bhp-hr	46.59	441.17
CH_4	0.0066	lb/MMBtu	0.02	0.0066	lb/MMBtu	0.00	0.02
N_20	0.0013	lb/MMBtu	0.00	0.0013	lb/MMBtu	0.00	0.00
CO_2e			395			46.59	441.59

Assumptions and Methodology

Hours of operation = 500/year per EPA guidance for emergency devices
Fuel density = 7.0 lb/gal
Fuel heat value = 0.137 MMBtu/gal
Fuel sulfur content = 500 ppmw for Emergency generator, 15 ppm_w for fire pump engine, and 7 lb/gal density of fuel

Emergency generator emissions based on the following:

CO, NOx, PM, PM10, PM2.5, VOC, and CO2 emissions are based 2013 certified engine test data
Certified engine test data converted from g/kW-hr to g/bhp-hr by multiplying by 0.7457
Certified engine test data from: http://www.epa.gov/otaq/cert/eng-cert/nrci/nrci-cert-ghg-13.xls
HAP Emission factors are from AP-42, Chapter 3, Section 4, Table 3.4-3 for emergency generator
CH4 and N2O emission factors from 40 CFR 98.33

Fire pump engine emissions based on the following:

CO, NOx, PM, PM10, PM2.5 and CO2 emissions are based on 2010 certified engine test data
Certified engine test data converted from g/kW-hr to g/bhp-hr by multiplying by 0.7457
Certified engine test data from: http://www.epa.gov/otaq/cert/eng-cert/lgeng/lg-ci10.zip
VOC emissions are based on vendor data sheet
HAP Emission factors are from AP-42, Chapter 3, Section 3, Table 3.3-2 for fire pump engine
CH4 and N2O emission factors from 40 CFR 98.33

Emission calculation with g/bhp-hr emission factors
Emission factor * horsepower * 500 hours/2000 lb/ton

Emission calculation with lb/gal emission factor
Emission factor * gal/hr * 500 hours/2000 lb/ton
Emission calculation with lb/MMBtu emission factors
Emission factor * MMBtu/hr * 500 hours/2000 lb/ton

$CO_2e = CO_2 + (21 * CH_4) + (310 * N_2O)$

Appendix A: Emission Calculations
Large Reciprocating Internal Combustion Engines - Diesel Fuel
Output Rating (>600 HP)
Maximum Input Rate (>4.2 MMBtu/hr)

Company Name: **Cummins Inc. (Seymour Engine Plant)**
Address City IN Zip: **800 E. Third Street**
Operating Permit Number: **071-30358-00015**
Significant Source Mod. No: **071-33555-00015**
Significant Permit Mod. No: **071-33585-00015**
Reviewer: **Deena Patton**

Units	HP
Emergency Generator	1490
Total	**1490**

Output Horsepower Rating (hp)	1490.0
Maximum Hours Operated per Year	500
Potential Throughput (hp-hr/yr)	745,000
Sulfur Content (S) of Fuel (% by weight)	0.500

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	7.00E-04	4.01E-04	4.01E-04	4.05E-03 *(.00809S)*	2.40E-02 **see below	7.05E-04	5.50E-03
Potential Emission in tons/yr	0.26	0.15	0.15	1.51	8.94	0.26	2.05

*PM10 emission factor in lb/hp-hr was calculated using the emission factor in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Table 3.3-1).
**NOx emission factor: uncontrolled = 0.024 lb/hp-hr, controlled by ignition timing retard = 0.013 lb/hp-hr

Hazardous Air Pollutants (HAPs)

	Pollutant						
	Benzene	Toluene	Xylene	Formaldehyde	Acetaldehyde	Acrolein	Total PAH HAPs***
Emission Factor in lb/hp-hr****	5.43E-06	1.97E-06	1.35E-06	5.52E-07	1.76E-07	5.52E-08	1.48E-06
Potential Emission in tons/yr	2.02E-03	7.33E-04	5.03E-04	2.06E-04	6.57E-05	2.05E-05	5.53E-04

***PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)
****Emission factors in lb/hp-hr were calculated using emission factors in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Table 3.3-1).

Potential Emission of Total HAPs (tons/yr)	**4.10E-03**

Green House Gas Emissions (GHG)

	Pollutant		
	CO2	CH4	N2O
Emission Factor in lb/hp-hr	1.16E+00	6.35E-05	9.30E-06
Potential Emission in tons/yr	4.32E+02	2.36E-02	3.46E-03

Summed Potential Emissions in tons/yr	**4.32E+02**
CO2e Total in tons/yr	**4.34E+02**

Methodology
Emission Factors are from AP 42 (Supplement B 10/96) Tables 3.4-1 , 3.4-2, 3.4-3, and 3.4-4.
CH4 and N2O Emission Factor from 40 CFR 98 Subpart C Table C-2.
Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Potential Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] * [Maximum Hours Operated per Year]
Potential Emission (tons/yr) = [Potential Throughput (hp-hr/yr)] * [Emission Factor (lb/hp-hr)] / [2,000 lb/ton]
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

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updated 10/2012

Appendix A: Emissions Calculations
Potential to Emit --Paved Roads

Company Name: Cummins Inc. (Seymour Engine Plant)
Address City IN Zip: 800 E. Third Street
Operating Permit Number: 071-30358-00015
Significant Source Mod. No: 071-33555-00015
Significant Permit Mod. No: 071-33585-00015
Reviewer: Deena Patton

Vehicle Informtation (provided by source)

Type	Maximum number of vehicles per day	Number of one-way trips per day per vehicle	Maximum trips per day (trip/day)	Maximum Weight Loaded (tons/trip)	Total Weight driven per day (ton/day)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/day)	Maximum one-way miles (miles/yr)
Delivery/Distribution (entering plant) (one-way trip)	20.0	1.0	20.0	40.0	800.0	450	0.085	1.7	622.2
Delivery/Distribution (leaving plant) (one-way trip)	20.0	1.0	20.0	40.0	800.0	450	0.085	1.7	622.2
		Totals	**40.0**		**1600.0**			**3.4**	**1244.3**

Average Vehicle Weight Per Trip = 40.0 tons/trip
Average Miles Per Trip = 0.09 miles/trip

Unmitigated Emission Factor, Ef = [k * (sL)^0.91 * (W)^1.02] (Equation 1 from AP-42 13.2.1)

	PM	PM10	PM2.5	
where k =	0.011	0.0022	0.00054	lb/VMT = particle size multiplier (AP-42 Table 13.2.1-1)
W =	40.0	40.0	40.0	tons = average vehicle weight (provided by source)
sL =	0.6	0.6	0.6	g/m^2 = Ubiquitous Baseline for Silt Loading for Paved Roads 13.2.1-2)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, Eext = E * [1 - (p/4N)] (Equation 2 from AP-42 13.2.1)

Mitigated Emission Factor, Eext = Ef * [1 - (p/4N)]
where p = 125 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
N = 365 days per year

	PM	PM10	PM2.5	
Unmitigated Emission Factor, Ef =	0.298	0.060	0.0146	lb/mile
Mitigated Emission Factor, Eext =	0.272	0.054	0.0134	lb/mile

Process	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)
Delivery/Distribution (entering plant) (one-way trip)	0.09	0.02	0.00	0.08	0.02	0.00
Delivery/Distribution (leaving plant) (one-way trip)	0.09	0.02	0.00	0.08	0.02	0.00
Totals	**0.19**	**0.04**	**0.01**	**0.17**	**0.03**	**0.01**

Methodology

Total Weight driven per day (ton/day) = [Maximum Weight Loaded (tons/trip)] * [Maximum trips per day (trip/day)]
Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip) / [5280 ft/mile]
Maximum one-way miles (miles/day) = [Maximum trips per year (trip/day)] * [Maximum one-way distance (mi/trip)]
Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per day (ton/day)] / SUM[Maximum trips per day (trip/day)]
Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/day)] / SUM[Maximum trips per year (trip/day)]
Unmitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] * [Unmitigated Emission Factor (lb/mile)] * (ton/2000 lbs)
Mitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] * [Mitigated Emission Factor (lb/mile)] * (ton/2000 lbs)
Controlled PTE (tons/yr) = [Mitigated PTE (tons/yr)] * [1 - Dust Control Efficiency]

Abbreviations

PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
PM2.5 = Particle Matter (<2.5 um)
PTE = Potential to Emit

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: David Wehrkamp
Cummins, Inc. Seymour Engine Plant
800 East Third Street
Seymour, IN 47274

DATE: January 22, 2014

FROM: Matt Stuckey, Branch Chief
Permits Branch
Office of Air Quality

SUBJECT: Final Decision
Significant Source Modification
071-33555-00015

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:
Darren Wildman – Plant Manager
Bernard Paul – B. Paul Consulting
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.

Final Applicant Cover letter.dot 6/13/2013

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Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

January 22, 2014

TO: Jackson County Public Library

From: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Subject: **Important Information for Display Regarding a Final Determination**

Applicant Name: Cummins, Inc. Seymour Engine Plant
Permit Number: 071-33555-00015

You previously received information to make available to the public during the public comment period of a draft permit. Enclosed is a copy of the final decision and supporting materials for the same project. Please place the enclosed information along with the information you previously received. To ensure that your patrons have ample opportunity to review the enclosed permit, **we ask that you retain this document for at least 60 days.**

The applicant is responsible for placing a copy of the application in your library. If the permit application is not on file, or if you have any questions concerning this public review process, please contact Joanne Smiddie-Brush, OAQ Permits Administration Section at 1-800-451-6027, extension 3-0185.

Enclosures
Final Library.dot 6/13/2013

Mail Code 61-53

IDEM Staff	GHOTOPP 1/22/2014 Cummins Incorporated Seymour Engine Plant 071-33555-00015 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	Type of Mail: **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		David Wehrkamp Cummins Incorporated Seymour Engine Plant 800 E Third St Seymour IN 47274 (Source CAATS) via confirme delivery									
2		Darren Wildman Plant Mgr Cummins Incorporated Seymour Engine Plant 800 E Third St Seymour IN 47274 *(RO CAATS)*									
3		Jackson County Commissioner Jackson County Courthouse Brownstown IN 47220 *(Local Official)*									
4		Mr. Tome Earnhart 3960 N. CR 300 W. North Vernon IN 47265 *(Affected Party)*									
5		Seymour City Council and Mayors Office 301 North Chestnut Street Seymour IN 47274 *(Local Official)*									
6		Jackson County Health Department 801 West 2nd Street Seymour IN 47274-2711 *(Health Department)*									
7		Jackson Co Public Library 303 W 2nd Street Seymour IN 47274-2184 *(Library)*									
8		Bernard Paul B Paul Consulting, LLC 285 Spring Drive Zionsville IN 46077 *(Consultant)*									
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