



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

To: Interested Parties

Date: August 7, 2014

From: Matthew Stuckey, Chief
Permits Branch
Office of Air Quality

Source Name: Nucor Fastener

Permit Level: Title V Significant Permit Modification

Permit Number: 033-34368-00038

Source Location: 6730 County Road 60, St. Joe, Indiana

Type of Action Taken: Modification at an existing source
Revisions to permit requirements

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 matter referenced above.

The final decision is available on the IDEM website at: <http://www.in.gov/apps/idem/caats/>
To view the document, select Search option 3, then enter permit 34368.

If you would like to request a paper copy of the permit document, please contact IDEM's central file room:

Indiana Government Center North, Room 1201
100 North Senate Avenue, MC 50-07
Indianapolis, IN 46204
Phone: 1-800-451-6027 (ext. 4-0965)
Fax (317) 232-8659

Pursuant to IC 13-17-3-4 and 326 IAC 2, this permit modification is effective immediately, unless a petition for stay of effectiveness is filed and granted, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

(continues on next page)

If you wish to challenge this decision, IC 4-21.5-3-7 and IC 13-15-7-3 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204, **within eighteen (18) 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.

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

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

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

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



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Mr. John Harden
Nucor Fastener
6730 County Road 60
St. Joe, IN 46785

August 7, 2014

Re: 033-34368-00038
Significant Permit Modification to
Part 70 Renewal No.: T033-31290-00038

Dear Mr. Harden:

Nucor Fastener was issued a Part 70 Operating Permit Renewal No. 033-31290-00038 on August 10, 2012 for a stationary nut and bolt manufacturing operation located at 6730 County Road 60, St. Joe, Indiana. An application requesting changes to this permit was received on March 31, 2014. Pursuant to the provisions of 326 IAC 2-7-12, a significant permit modification to this permit is hereby approved as described in the attached Technical Support Document.

Please find attached the entire Part 70 Operating Permit as modified, including the following new attachments:

Attachment A: 40 CFR 60, Subpart JJJJ, New Source Performance Standard for Stationary Spark Ignition Internal Combustion Engines (new)

Attachment B: 40 CFR 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (new)

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 Brian Williams, of my staff, at 317-234-5375 or 1-800-451-6027, and ask for extension 4-5375.

Sincerely,

Iryn Calilung, Section Chief
Permits Branch
Office of Air Quality

Attachment(s): Updated Permit, Technical Support Document and Appendix A

IC/BMW

cc: File - DeKalb County
DeKalb County Health Department
U.S. EPA, Region V
Compliance and Enforcement Branch
Billing, Licensing and Training Section
IDEM Northern Regional Office



A State that Works



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Part 70 Operating Renewal Administrative Permit OFFICE OF AIR QUALITY

**Nucor Fastener
6730 County Road 60
St. Joe, Indiana 46785**

(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

Operation Permit No.: T033-31290-00038	
Issued by: Tripurari P. Sinha, Ph. D., Section Chief Permits Branch Office of Air Quality	Issuance Date: August 10, 2012 Expiration Date: August 10, 2017

Minor Permit Modification No.:033-32278-00038, issued on November 28, 2012

Significant Permit Modification No.:033-34368-00038	
Issued by:  Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: August 7, 2014 Expiration Date: August 10, 2017

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Attachment A: Standards of Performance for Stationary Spark Ignition Internal Combustion Engines [40 CFR Part 60, Subpart JJJJ] [326 IAC 12]

Attachment B: National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines [40 CFR Part 63, Subpart ZZZZ] [326 IAC 20-82]

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 nut and bolt manufacturing operation.

Source Address:	6730 County Road 60, St. Joe, Indiana 46785
General Source Phone Number:	219-337-1600
SIC Code:	3452 (Bolts, Nuts, Screws, Rivets, and Washers)
County Location:	DeKalb
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Operating Permit Program Minor Source, under PSD Minor Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

A.2 Part 70 Source Definition [326 IAC 2-7-1(22)]

This source consists of two (2) plants:

- (a) Nucor Fastener (Plant ID 033-00038) is located at 6730 County Road 60, St. Joe, Indiana 46785; and
- (b) NUCOR Vulcraft Group – St. Joe Division (Plant ID 033-00027) is located at 6610 County Road 60, St. Joe, Indiana 46785.

IDEM has determined that Nucor Fastener and NUCOR Vulcraft Group – St. Joe Division are under the common control of Nucor Corporation. These two plants are considered one source because they are located on adjacent properties, are under common ownership, and belong to the same industrial grouping. Therefore, the term “source” in the Part 70 documents refers to both Nucor Fastener and NUCOR Vulcraft Group – St. Joe Division as one major source.

Separate Part 70 permits have been issued to Nucor Fastener and NUCOR Vulcraft Group – St. Joe Division solely for administrative purposes.

A.3 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) natural gas-fired boiler, constructed in 1994, using liquid propane gas as a backup fuel, with a maximum heat input capacity of 9.807 million British thermal units per hour (mmBtu/hr);
- (b) One (1) natural gas-fired belt heat treat furnace, constructed in 1991, including one (1) hardening furnace and one (1) draw furnace, with a total maximum heat input capacity of 18.35 mmBtu/hr;

- (c) One (1) sulfuric acid pickling facility, constructed in 1999 and approved in 2014 for modification, exhausting to stack EP63, with an acid recovery system, with a maximum capacity of 64.8 tons of steel per hour;
- (d) One (1) bolt-making machine, identified as Bolt-Making Machine #31 with a total capacity of 1.75 tons of steel per hour, using 6,922.4 gallons of lubricant and cooling oil per year and equipped with smog hog oil mist collection system.
- (e) One (1) nut-forming machine, including coolant usage, with a total maximum capacity of 1.27 tons of steel per hour;
- (f) One (1) tumble blaster, exhausting to a baghouse, with a maximum capacity of 1.27 tons of steel per hour;
- (g) Seven (7) bolt formers, with a total capacity of 9.5 tons of steel per hour, using a total maximum of 37,500 gallons of lubricant and cooling oil per year, and each equipped with an oil mist collection system, including:
 - (1) Six (6) bolt formers, identified as Machines #5, #6, #20, #26 - #28; and
 - (2) One (1) bolt former, which is an Insignificant Activity pursuant to 326 IAC 2-7-1(21), identified as Machine #29; and
- (h) One (1) natural gas-fired boiler, identified as EP54, constructed May 26, 2000, using liquid propane gas as a backup fuel, with a maximum heat input capacity of 8.37 mmBtu/hr.

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

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

- (a) Natural gas-fired space heaters, with a total maximum capacity of 8.3 mmBtu/hr;
- (b) Natural gas-fired air makeup units, with a total maximum capacity of 50.23 mmBtu/hr;
- (c) Four (4) natural gas-fired annealing furnaces, with a total heat input capacity of 23.76 mmBtu/hr, and each processing 113,400 pounds of metal per batch;
- (d) Four (4) natural gas fired annealing furnaces, with a total maximum heat input capacity of 27.6 mmBtu/hr.
- (e) One (1) natural gas-fired heat treat furnace, including one (1) belt furnace, one (1) hardening furnace, and one (1) draw furnace, with a total maximum heat input capacity of 7.70 mmBtu/hr;
- (f) Two (2) natural gas-fired heat treat furnaces, including two (2) belt furnaces, two (2) hardening furnaces, and two (2) draw furnaces, with a total maximum heat input capacity of 18.1 mmBtu/hr;
- (g) One (1) wash line, using a maximum of 1,733 gallons of rust preventative per year.
- (h) Endothermic generators, to be constructed in 2009, with a maximum capacity of 1.3 MMBtu/hr.
- (i) One (1) waste oil heater, to be constructed in 2009, with a maximum capacity of 0.5 MMBtu/hr.

- (j) One (1) waste oil heater, to be constructed in 2009, with a maximum capacity of 0.15 MMBtu/hr.
- (k) One (1) cooling tower at the concrete pond, approved in 2014 for construction, with a maximum water circulation rate of 1,950 gallons per minute.
- (l) Two (2) cooling towers (975 gpm each) serving the Holcroft belt heat treat furnace and nut forming machine.
- (m) One (1) four-stroke rich-burn natural gas-fired emergency generator, serving the bell annealing furnaces, fire pond and water wells, with a maximum capacity of 1.95 mmBtu/hr or 150 kilowatts, and manufactured in September 2011.

This four-stroke rich-burn natural gas generator is considered an affected facility under the NSPS for Stationary Spark Ignition Internal Combustion Engines (40 CFR 60, Subpart JJJJ) and a new stationary reciprocating internal combustion engine at an area source of hazardous air pollutants under NESHAP for Stationary Reciprocating Internal Combustion Engines (40 CFR 63, Subpart ZZZZ).

- (n) Twenty two (22) bolt-making machines, (#1-#3, #8-#9, #12-#17, #19, #21-#24) permitted in 1986, (#4) constructed in 1994, (#7 and #25) constructed in 2000, (#11) constructed in 2003, (#30) constructed in 2004 and (#10) constructed in 2008, with a total maximum capacity of 43.2 tons of steel per hour, using a total of 124,000 pounds of coolant and oil lubricant per year, with emissions from bolt-making machines controlled by three (3) wet Venturi scrubbers, including:
 - (1) Five (5) bolt-making machines, identified as Machines #1, #7, #10, #11, and #25; and
 - (2) Seventeen (17) bolt-making machines, which are Insignificant Activities pursuant to 326 IAC 2-7-1(21), identified as Machines #2 - #4, #8, #9, #12 - #17, #19, #21-#24, and #30;

A.5 Part 70 Permit Applicability [326 IAC 2-7-2]

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

- (a) It is a major source, as defined in 326 IAC 2-7-1(22);
- (b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION B GENERAL CONDITIONS

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

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

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

- (a) This permit, T033-31290-00038, 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(35), 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(35).

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(35).

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(35).

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(35).

- (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(35).

- (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 T033-31290-00038 and issued pursuant to permitting programs approved into the state implementation plan have been either:
- (1) incorporated as originally stated,
 - (2) revised under 326 IAC 2-7-10.5, or
 - (3) deleted under 326 IAC 2-7-10.5.
- (b) Provided that all terms and conditions are accurately reflected in this combined permit, all previous registrations and permits are superseded by 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(35).

- (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(35).

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(35).

(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) and (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(35).

- (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(35).

- (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 Fugitive Dust Emissions [326 IAC 6-4]

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

C.6 Stack Height [326 IAC 1-7]

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

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

- (a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of

326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.

- (b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:
 - (1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or
 - (2) If there is a change in the following:
 - (A) Asbestos removal or demolition start date;
 - (B) Removal or demolition contractor; or
 - (C) Waste disposal site.
- (c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).
- (d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

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

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

- (e) **Procedures for Asbestos Emission Control**
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.
- (f) **Demolition and Renovation**
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).
- (g) **Indiana Licensed Asbestos Inspector**
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Licensed Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement to use an Indiana Licensed Asbestos inspector is not federally enforceable.

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

C.8 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(35).

- (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(35).
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

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

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

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

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

- (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(35).

C.11 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.12 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.13 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.14 Response to Excursions or Exceedances [326 IAC 2-7-5] [326 IAC 2-7-6]

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

- (a) The Permittee shall take reasonable response steps to restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing excess emissions.
- (b) The response shall include minimizing the period of any startup, shutdown or malfunction. The response may include, but is not limited to, the following:
 - (1) initial inspection and evaluation;
 - (2) recording that operations returned or are returning to normal without operator action (such as through response by a computerized distribution control system);
or

- (3) any necessary follow-up actions to return operation to normal or usual manner of operation.
- (c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:
 - (1) monitoring results;
 - (2) review of operation and maintenance procedures and records; and/or
 - (3) inspection of the control device, associated capture system, and the process.
- (d) Failure to take reasonable response steps shall be considered a deviation from the permit.
- (e) The Permittee shall record the reasonable response steps taken.

C.15 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5][326 IAC 2-7-6]

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall 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(35).

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

C.16 Emission Statement [326 IAC 2-7-5(3)(C)(iii)][326 IAC 2-7-5(7)][326 IAC 2-7-19(c)][326 IAC 2-6]

In accordance with the compliance schedule specified in 326 IAC 2-6-3(b)(1), starting in 2004 and every three (3) years thereafter, the Permittee shall submit by July 1 an emission statement covering the previous calendar year. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4(c) and shall meet the following requirements:

- (1) Indicate estimated actual emissions of all pollutants listed in 326 IAC 2-6-4(a);
- (2) Indicate estimated actual emissions of regulated pollutants as defined by 326 IAC 2-7-1(32) ("Regulated pollutant, which is used only for purposes of Section 19 of this rule") from the source, for purpose of fee assessment.

The statement must be submitted to:

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

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(35).

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

(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.

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

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

- (b) The address for report submittal is:

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

- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (d) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

Stratospheric Ozone Protection

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

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

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) One (1) natural gas-fired boiler, constructed in 1994, using liquid propane gas as a backup fuel, with a maximum heat input capacity of 9.807 million British thermal units per hour (mmBtu/hr);
- (b) One (1) natural gas-fired boiler, identified as EP54, constructed May 26, 2000, using liquid propane gas as a backup fuel, with a maximum heat input capacity of 8.37 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.1.1 Particulate [326 IAC 6-2-4]

- (a) Pursuant to 326 IAC 6-2-4(a) (Particulate Emission Limitations for Sources of Indirect Heating), the PM from the one (1) boiler constructed in 1994, with a heat input capacity of 9.807 mmBtu/hr, shall be limited to 0.60 pounds per mmBtu heat input.
- (b) Pursuant to 326 IAC 6-2-4(a) (Particulate Emission Limitations for Sources of Indirect Heating), the PM from the one (1) boiler EP54 constructed May 26, 2000, and with a heat input capacity of 8.37 mmBtu/hr, shall be limited to 0.51 pounds per mmBtu heat input. This limitation is based on the following equation:

$$Pt = 1.09 / Q^{0.26}$$

Where:

Pt = Pounds of particulate matter emitted per million Btu (lb/mmBtu) heat input.

Q = Total source maximum operating capacity rating in million Btu per hour (mmBtu/hr) heat input. As each new indirect heating facility is added to a plant Q will increase. As a result, the emission limitation for each progressively newer facility will be more stringent until the total plant capacity reaches 10,000 mmBtu/hr. For Q less than 10 mmBtu/hr, Pt shall not exceed 0.6.

D.1.2 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan, in accordance with Section B – Preventive Maintenance Plan, of this permit, is required for Natural gas-fired boiler using liquid propane gas as a backup fuel and for natural gas boiler identified as EP54.

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (c) One (1) sulfuric acid pickling facility, constructed in 1999 and approved in 2014 for modification, exhausting to stack EP63, with an acid recovery system, with a maximum capacity of 64.8 tons of steel per hour;

(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 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emission rate from the sulfuric acid pickling facility shall not exceed 47.02 pounds per hour when operating at a process weight rate of 64.8 tons of steel per hour.

The pounds per hour limitation was calculated using the following equation:

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

$$E = 55.0 P^{0.11} - 40 \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

D.2.2 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan, in accordance with Section B – Preventive Maintenance Plan, of this permit, is required for sulfuric acid pickling facility.

SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(g) Seven (7) bolt formers, with a total capacity of 9.5 tons of steel per hour, using a total maximum of 37,500 gallons of lubricant and cooling oil per year, and each equipped with an oil mist collection system, including:

- (1) Six (6) bolt formers, identified as Machines #5, #6, #20, #26 - #28; and
- (2) One (1) bolt former, which is an Insignificant Activity pursuant to 326 IAC 2-7-1(21), identified as Machine #29; and

(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.3.1 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rates from Machines #5, #6, #20, and #26-28 shall not exceed the pound per hour emission limitations when operating at maximum process weight rates as specified in the table below:

Emissions Unit	Process Weight Rate (ton/hr)	326 IAC 6-3-2 Allowable Particulate Emission Limit (lb/hr)
Machine #5	1.92	6.35
Machine #6	2.21	6.98
Machine #20	0.62	2.98
Machine #26	1.78	6.04
Machine #27	1.73	5.93
Machine #28	0.92	3.88

The pounds per hour limitations were calculated using the following equation:

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

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour;
 and P = process weight rate in tons per hour

D.3.2 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan, in accordance with Section B – Preventive Maintenance Plan, of this permit, is required for the seven (7) bolt forming machines, identified as Machines #5-#6, #20 and #26-#29, and the oil mist collection systems.

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

D.3.3 Particulate Control

In order to ensure compliance with Condition D.3.1, the oil mist collection systems for particulate control shall be in operation and control emissions from the bolt formers at all times that the bolt farmers are in operation.

SECTION D.4

EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (e) One (1) nut-forming machine, including coolant usage, with a total maximum capacity of 1.27 tons of steel per hour;

(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.4.1 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emission rate from the one (1) nut-forming machine shall not exceed 4.81 pounds per hour when operating at a process weight rate of 1.27 tons of steel per hour.

The pounds per hour limitation was calculated using the following equation:

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

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour;
and P = process weight rate in tons per hour

D.4.2 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan, in accordance with Section B – Preventive Maintenance Plan, of this permit, is required for nut-forming machine.

SECTION D.5 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (f) One (1) tumble blaster, exhausting to a baghouse, with a maximum capacity of 1.27 tons of steel per hour;

(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.5.1 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emission rate from the tumble blaster shall not exceed 4.81 pounds per hour when operating at a process weight rate of 1.27 tons of steel per hour.

The pounds per hour limitation was calculated using the following equation:

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

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour;
and P = process weight rate in tons per hour

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

A Preventive Maintenance Plan, in accordance with Section B – Preventive Maintenance Plan, of this permit, is required for tumble blaster.

SECTION D.6 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (d) One (1) bolt-making machine, identified as Bolt-Making Machine #31 with a total capacity of 1.75 tons of steel per hour, using 6,922.4 gallons of lubricant and cooling oil per year and equipped with smog hog oil mist collection system.

(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.6.1 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rates from Machines #31 shall not exceed the pound per hour emission limitations when operating at maximum process weight rates as specified in the table below:

Emissions Unit	Process Weight Rate (ton/hr)	326 IAC 6-3-2 Allowable Particulate Emission Limit (lb/hr)
Machine #31	1.75	5.97

The pounds per hour limitations were calculated using the following equation:

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

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour;
and P = process weight rate in tons per hour

D.6.2 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan, in accordance with Section B – Preventive Maintenance Plan, of this permit, is required for the one (1) machine identified as Machine #31, and the oil mist collection system.

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

D.6.3 Particulate Control

In order to ensure compliance with Condition D.6.1, the oil mist collection system for particulate control shall be in operation and control emission from the bolt-making machine at all times that the bolt-making machine is in operation.

SECTION E.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (m) One (1) four-stroke rich-burn natural gas-fired emergency generator, serving the bell annealing furnaces, fire pond and water wells, with a maximum capacity of 1.95 mmBtu/hr or 150 kilowatts, and manufactured in September 2011.

This four-stroke rich-burn natural gas generator is considered an affected facility under the NSPS for Stationary Spark Ignition Internal Combustion Engines (40 CFR 60, Subpart JJJJ) and a new stationary reciprocating internal combustion engine at an area source of hazardous air pollutants under NESHAP for Stationary Reciprocating Internal Combustion Engines (40 CRF 63, Subpart ZZZZ).

(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) for Stationary Spark Ignition Internal Combustion Engines [40 CFR 60, Subpart JJJJ] [326 IAC 2-7-5(1)]

E.1.1 General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR Part 60, Subpart A]

The Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 12-1, except when otherwise specified in 40 CFR Part 60, Subpart JJJJ.

E.1.2 New Source Performance Standards (NSPS) for Stationary Spark Ignition Internal Combustion Engines [326 IAC 12] [40 CFR Part 60, Subpart JJJJ]

The Permittee, which owns or operates a stationary spark ignition internal combustion engine, shall comply with the following provisions of 40 CFR Part 60, Subpart JJJJ, which are incorporated by reference as 326 IAC 12:

- (1) 40 CFR 60.4230(a)(4)(iv)
- (2) 40 CFR 60.4233(c)
- (3) 40 CFR 60.4234
- (4) 40 CFR 60.4236
- (5) 40 CFR 60.4243
- (6) 40 CFR 60.4245
- (7) 40 CFR 60.4246
- (8) 40 CFR 60.4248
- (9) Table 3

The entire text of 40 CFR 60, Subpart JJJJ, is included as Attachment A of this permit.

SECTION E.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (m) One (1) four-stroke rich-burn natural gas-fired emergency generator, serving the bell annealing furnaces, fire pond and water wells, with a maximum capacity of 1.95 mmBtu/hr or 150 kilowatts, and manufactured in September 2011.

This four-stroke rich-burn natural gas generator is considered an affected facility under the NSPS for Stationary Spark Ignition Internal Combustion Engines (40 CFR 60, Subpart JJJJ) and a new stationary reciprocating internal combustion engine at an area source of hazardous air pollutants under NESHAP for Stationary Reciprocating Internal Combustion Engines (40 CRF 63, Subpart ZZZZ).

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

National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines [40 CFR 63, Subpart ZZZZ] [326 IAC 2-7-5(1)]

E.2.1 National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines [40 CFR 63, Subpart ZZZZ][326 IAC 20-82]

The Permittee, which owns or operates stationary Reciprocating Internal Combustion Engine, shall comply with the following provisions of 40 CFR Part 63, Subpart ZZZZ, which are incorporated by reference as 326 IAC 20-82:

- (1) 40 CFR 63.6580
- (2) 40 CFR 63.6585
- (3) 40 CFR 63.6590(a)(2)(iii) and (c)(1)
- (4) 40 CFR 63.6595(a)(7)
- (5) 40 CFR 63.6665
- (6) 40 CFR 63.6670
- (7) 40 CFR 63.6675

The entire text of 40 CFR 63, Subpart ZZZZ, is included as Attachment B of this permit.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
PART 70 OPERATING PERMIT
CERTIFICATION**

Source Name: Nucor Fastener
Source Address: 6730 County Road 60, St. Joe, Indiana 46785
Part 70 Permit No.: T033-31290-00038

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: Nucor Fastener
Source Address: 6730 County Road 60, St. Joe, Indiana 46785
Part 70 Permit No.: T033-31290-00038

This form consists of 2 pages

Page 1 of 2

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

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

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

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

Page 2 of 2

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency? Y N
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 AND ENFORCEMENT BRANCH
PART 70 OPERATING PERMIT**

QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

Source Name: Nucor Fastener
Source Address: 6730 County Road 60, St. Joe, Indiana 46785
Part 70 Permit No.: T033-31290-00038

Months: _____ to _____ Year: _____

Page 1 of 2

<p>This report shall be submitted quarterly based on a calendar year. Proper notice submittal under Section B –Emergency Provisions satisfies the reporting requirements of paragraph (a) of Section C- General Reporting. Any deviation from the requirements of this permit, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".</p>	
<input type="checkbox"/> NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.	
<input type="checkbox"/> 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

Part 70 Operating Permit Renewal No: 033-31290-00038

Electronic Code of Federal Regulations

Title 40: Protection of Environment

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

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

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

What This Subpart Covers

§ 60.4230 Am I subject to this subpart?

(a) The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary spark ignition (SI) internal combustion engines (ICE) as specified in paragraphs (a)(1) through (6) of this section. For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator.

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

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

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

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

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

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

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

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

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

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

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

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

- (iii) on or after July 1, 2008, for engines with a maximum engine power less than 500 HP; or
- (iv) on or after January 1, 2009, for emergency engines with a maximum engine power greater than 19 KW (25 HP).
- (5) Owners and operators of stationary SI ICE that are modified or reconstructed after June 12, 2006, and any person that modifies or reconstructs any stationary SI ICE after June 12, 2006.
- (6) The provisions of § 60.4236 of this subpart are applicable to all owners and operators of stationary SI ICE that commence construction after June 12, 2006.
- (b) The provisions of this subpart are not applicable to stationary SI ICE being tested at an engine test cell/stand.
- (c) If you are an owner or operator of an area source subject to this subpart, you are exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart as applicable.
- (d) For the purposes of this subpart, stationary SI ICE using alcohol-based fuels are considered gasoline engines.
- (e) Stationary SI ICE may be eligible for exemption from the requirements of this subpart as described in 40 CFR part 1068, subpart C (or the exemptions described in 40 CFR parts 90 and 1048, for engines that would need to be certified to standards in those parts), except that owners and operators, as well as manufacturers, may be eligible to request an exemption for national security.
- (f) Owners and operators of facilities with internal combustion engines that are acting as temporary replacement units and that are located at a stationary source for less than 1 year and that have been properly certified as meeting the standards that would be applicable to such engine under the appropriate nonroad engine provisions, are not required to meet any other provisions under this subpart with regard to such engines.

[73 FR 3591, Jan. 18, 2008, as amended at 76 FR 37972, June 28, 2011]

Emission Standards for Manufacturers

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

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

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

(b) Stationary SI internal combustion engine manufacturers must certify their stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) (except emergency stationary ICE with a maximum engine power greater than 25 HP and less than 130 HP) that use gasoline and that are manufactured on or after the applicable date in § 60.4230(a)(2), or manufactured on or after the applicable date in § 60.4230(a)(4) for emergency stationary ICE with

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

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

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

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

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

(g) Notwithstanding the requirements in paragraphs (a) through (c) of this section, stationary SI 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 SI ICE.

[73 FR 3591, Jan. 18, 2008, as amended at 73 FR 59175, Oct. 8, 2008; 76 FR 37973, June 28, 2011; 78 FR 6697, Jan. 30, 2013]

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

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

Emission Standards for Owners and Operators

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

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

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

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

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

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

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

(1) Owners and operators of stationary SI ICE with a maximum engine power less than or equal to 19 KW (25 HP), that are modified or reconstructed after June 12, 2006, must comply with emission standards in § 60.4231(a) for their stationary SI ICE. Engines with a date of manufacture prior to July 1, 2008 must comply with the emission standards specified in § 60.4231(a) applicable to engines manufactured on July 1, 2008.

(2) Owners and operators of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) that are gasoline engines and are modified or reconstructed after June 12, 2006, must comply with the emission standards in § 60.4231(b) for their stationary SI ICE. Engines with a date of manufacture prior to July 1, 2008 (or January 1, 2009

for emergency engines) must comply with the emission standards specified in § 60.4231(b) applicable to engines manufactured on July 1, 2008 (or January 1, 2009 for emergency engines).

(3) Owners and operators of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) that are rich burn engines that use LPG, that are modified or reconstructed after June 12, 2006, must comply with the same emission standards as those specified in § 60.4231(c). Engines with a date of manufacture prior to July 1, 2008 (or January 1, 2009 for emergency engines) must comply with the emission standards specified in § 60.4231(c) applicable to engines manufactured on July 1, 2008 (or January 1, 2009 for emergency engines).

(4) Owners and operators of stationary SI natural gas and lean burn LPG engines with a maximum engine power greater than 19 KW (25 HP), that are modified or reconstructed after June 12, 2006, must comply with the same emission standards as those specified in paragraph (d) or (e) of this section, except that such owners and operators of non-emergency engines and emergency engines greater than or equal to 130 HP must meet a nitrogen oxides (NO_x) emission standard of 3.0 grams per HP-hour (g/HP-hr), a CO emission standard of 4.0 g/HP-hr (5.0 g/HP-hr for non-emergency engines less than 100 HP), and a volatile organic compounds (VOC) emission standard of 1.0 g/HP-hr, or a NO_x emission standard of 250 ppmvd at 15 percent oxygen (O₂), a CO emission standard 540 ppmvd at 15 percent O₂ (675 ppmvd at 15 percent O₂ for non-emergency engines less than 100 HP), and a VOC emission standard of 86 ppmvd at 15 percent O₂, where the date of manufacture of the engine is:

(i) Prior to July 1, 2007, for non-emergency engines with a maximum engine power greater than or equal to 500 HP (except lean burn natural gas engines and LPG engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP);

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

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

(iv) Prior to January 1, 2008, for non-emergency lean burn natural gas engines and LPG engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP.

(5) Owners and operators of stationary SI landfill/digester gas ICE engines with a maximum engine power greater than 19 KW (25 HP), that are modified or reconstructed after June 12, 2006, must comply with the same emission standards as those specified in paragraph (e) of this section for stationary landfill/digester gas engines. Engines with maximum engine power less than 500 HP and a date of manufacture prior to July 1, 2008 must comply with the emission standards specified in paragraph (e) of this section for stationary landfill/digester gas ICE with a maximum engine power less than 500 HP manufactured on July 1, 2008. Engines with a maximum engine power greater than or equal to 500 HP (except lean burn engines greater than or equal to 500 HP and less than 1,350 HP) and a date of manufacture prior to July 1, 2007 must comply with the emission standards specified in paragraph (e) of this section for stationary landfill/digester gas ICE with a maximum engine power greater than or equal to 500 HP (except lean burn engines greater than or equal to 500 HP and less than 1,350 HP) manufactured on July 1, 2007. Lean burn engines greater than or equal to 500 HP and less than 1,350 HP with a date of manufacture prior to January 1, 2008 must comply with the emission standards specified in paragraph (e) of this section for stationary landfill/digester gas ICE that are lean burn engines greater than or equal to 500 HP and less than 1,350 HP and manufactured on January 1, 2008.

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

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

[73 FR 3591, Jan. 18, 2008, as amended at 76 FR 37973, June 28, 2011]

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

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

Other Requirements for Owners and Operators

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

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

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

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

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

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

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

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

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

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

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

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

Compliance Requirements for Manufacturers

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

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

[73 FR 59176, Oct. 8, 2008]

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

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

[73 FR 59176, Oct. 8, 2008]

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

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

[73 FR 59176, Oct. 8, 2008]

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

(a) Manufacturers of stationary SI internal combustion engines with a maximum engine power greater than 19 KW (25 HP) that do not use gasoline and are not rich burn engines that use LPG can choose to certify their engines to the emission standards in § 60.4231(d) or (e), as applicable, under the voluntary certification program described in this

subpart. Manufacturers who certify their engines under the voluntary certification program must meet the requirements as specified in paragraphs (b) through (g) of this section. In addition, manufacturers of stationary SI internal combustion engines who choose to certify their engines under the voluntary certification program, must also meet the requirements as specified in § 60.4247.

(b) Manufacturers of engines other than those certified to standards in 40 CFR part 90 or 40 CFR part 1054 must certify their stationary SI ICE using the certification procedures required in 40 CFR part 1048, subpart C, and must follow the same test procedures that apply to large SI nonroad engines under 40 CFR part 1048, but must use the D-1 cycle of International Organization of Standardization 8178-4: 1996(E) (incorporated by reference, see 40 CFR 60.17) or the test cycle requirements specified in Table 3 to 40 CFR 1048.505, except that Table 3 of 40 CFR 1048.505 applies to high load engines only. Stationary SI internal combustion engine manufacturers who certify their stationary SI ICE with a maximum engine power less than or equal to 30 KW (40 HP) with a total displacement less than or equal to 1,000 cc to the certification emission standards and other requirements for new nonroad SI engines in 40 CFR part 90 or 40 CFR part 1054, and manufacturers of emergency engines that are greater than 25 HP and less than 130 HP who meet the Phase 1 standards in 40 CFR 90.103, applicable to class II engines, must certify their stationary SI ICE using the certification procedures required in 40 CFR part 90, subpart B, or 40 CFR part 1054, subpart C, as applicable, and must test their engines as specified in those parts. Manufacturers of equipment containing stationary SI internal combustion engines meeting the provisions of 40 CFR part 1054 must meet the provisions of 40 CFR part 1060, subpart C, to the extent they apply to equipment manufacturers.

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

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

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

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

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

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

(i) For engines being certified to the voluntary certification standards in Table 1 of this subpart, the VOC measurement shall be made by following the procedures in 40 CFR 1065.260 and 1065.265 in order to determine the total NMHC emissions by using a flame-ionization detector and non-methane cutter. As an alternative to the

nonmethane cutter, manufacturers may use a gas chromatograph as allowed under 40 CFR 1065.267 and may measure ethane, as well as methane, for excluding such levels from the total VOC measurement.

[73 FR 3591, Jan. 18, 2008, as amended at 73 FR 59176, Oct. 8, 2008; 76 FR 37974, June 28, 2011]

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

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

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

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

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

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

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

(1) The engines must be equipped with non-resettable hour meters.

(2) The engines must be designed to operate for a number of hours substantially greater than the applicable certified emissions life.

(3) The emission-related warranty for the engines may not be shorter than any published warranty offered by the manufacturer without charge for the engines. Similarly, the emission-related warranty for any component shall not be shorter than any published warranty offered by the manufacturer without charge for that component.

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

Compliance Requirements for Owners and Operators

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

(a) If you are an owner or operator of a stationary SI internal combustion engine that is manufactured after July 1, 2008, and must comply with the emission standards specified in § 60.4233(a) through (c), you must comply by purchasing an engine certified to the emission standards in § 60.4231(a) through (c), as applicable, for the same engine class and maximum engine power. In addition, you must meet one of the requirements specified in (a)(1) and (2) of this section.

(1) If you operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, you must keep records of conducted maintenance to demonstrate compliance, but no performance testing is required if you are an owner or operator. You must also meet the requirements as specified in 40 CFR part 1068, subparts A through D, as they apply to you. If you adjust engine settings according to and consistent with the manufacturer's instructions, your stationary SI internal combustion engine will not be considered out of compliance.

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

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

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

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

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

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

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

(i) If you are an owner or operator of a stationary SI internal combustion engine greater than 25 HP and less than or equal to 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent

practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance.

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

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

(d) If you own or operate an emergency stationary ICE, you must operate the emergency stationary ICE according to the requirements in paragraphs (d)(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 (d)(1) through (3) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (d)(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 (d)(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 (d)(3) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (d)(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 (d)(2) of this section. Except as provided in paragraph (d)(3)(i) 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) 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]

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

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

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

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

(1) Purchasing an engine certified according to 40 CFR part 1048. The engine must be installed and configured according to the manufacturer's specifications.

(2) Keeping records of performance test results for each pollutant for a test conducted on a similar engine. The test must have been conducted using the same methods specified in this subpart and these methods must have been followed correctly.

(3) Keeping records of engine manufacturer data indicating compliance with the standards.

(4) Keeping records of control device vendor data indicating compliance with the standards.

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

(1) Purchasing, or otherwise owning or operating, an engine certified to the emission standards in § 60.4233(f), as applicable.

(2) Conducting a performance test to demonstrate initial compliance with the emission standards according to the requirements specified in § 60.4244. The test must be conducted within 60 days after the engine commences operation after the modification or reconstruction.

[73 FR 3591, Jan. 18, 2008, as amended at 76 FR 37974, June 28, 2011; 78 FR 6697, Jan. 30, 2013]

Testing Requirements for Owners and Operators

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

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

(a) Each performance test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and according to the requirements in § 60.8 and under the specific conditions that are specified by Table 2 to this subpart.

(b) You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in § 60.8(c). If your stationary SI internal combustion engine is non-operational, you do not need to startup the engine solely to conduct a performance test; however, you must conduct the performance test immediately upon startup of the engine.

(c) You must conduct three separate test runs for each performance test required in this section, as specified in § 60.8(f). Each test run must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and last at least 1 hour.

(d) To determine compliance with the NO_x mass per unit output emission limitation, convert the concentration of NO_x in the engine exhaust using Equation 1 of this section:

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

Where:

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

C_d = Measured NO_x concentration in parts per million by volume (ppmv).

1.912×10⁻³ = Conversion constant for ppm NO_x to grams per standard cubic meter at 20 degrees Celsius.

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

T = Time of test run, in hours.

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

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

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

Where:

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

C_d = Measured CO concentration in ppmv.

1.164×10^{-3} = Conversion constant for ppm CO to grams per standard cubic meter at 20 degrees Celsius.

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

T = Time of test run, in hours.

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

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

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

Where:

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

C_d = VOC concentration measured as propane in ppmv.

1.833×10^{-3} = Conversion constant for ppm VOC measured as propane, to grams per standard cubic meter at 20 degrees Celsius.

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

T = Time of test run, in hours.

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

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

$$RF_i = \frac{C_m}{C_{Ai}} \quad (\text{Eq. 4})$$

Where:

RF_i = Response factor of compound i when measured with EPA Method 25A.

$C_{M i}$ = Measured concentration of compound i in ppmv as carbon.

$C_{A i}$ = True concentration of compound i in ppmv as carbon.

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

Where:

$C_{i\text{ corr}}$ = Concentration of compound i corrected to the value that would have been measured by EPA Method 25A, ppmv as carbon.

$C_{i\text{ meas}}$ = Concentration of compound i measured by EPA Method 320, ppmv as carbon.

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

Where:

C_{Req} = Concentration of compound i in mg of propane equivalent per DSCM.

Notification, Reports, and Records for Owners and Operators

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

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

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

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

(2) Maintenance conducted on the engine.

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

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

(b) For all stationary SI emergency ICE greater than or equal to 500 HP manufactured on or after July 1, 2010, that do not meet the standards applicable to non-emergency engines, the owner or operator of must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. For all stationary SI emergency ICE greater than or equal to 130 HP and less than 500 HP manufactured on or after July 1, 2011 that do not meet the standards applicable to non-emergency engines, the owner or operator of must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. For all stationary SI emergency ICE greater than 25 HP and less than 130 HP manufactured on or after July 1, 2008, that do not meet the standards applicable to non-emergency engines, the owner or operator of must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation.

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

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

(2) The address of the affected source;

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

(4) Emission control equipment; and

(5) Fuel used.

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

(e) If you own or operate an emergency stationary SI 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 § 60.4243(d)(2)(ii) and (iii) or that operates for the purposes specified in § 60.4243(d)(3)(i), you must submit an annual report according to the requirements in paragraphs (e)(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 § 60.4243(d)(2)(ii) and (iii), including the date, start time, and end time for engine operation for the purposes specified in § 60.4243(d)(2)(ii) and (iii).

(vi) Number of hours the engine is contractually obligated to be available for the purposes specified in § 60.4243(d)(2)(ii) and (iii).

(vii) Hours spent for operation for the purposes specified in § 60.4243(d)(3)(i), including the date, start time, and end time for engine operation for the purposes specified in § 60.4243(d)(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.

[73 FR 3591, Jan. 18, 2008, as amended at 73 FR 59177, Oct. 8, 2008; 78 FR 6697, Jan. 30, 2013]

General Provisions

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

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

Mobile Source Provisions

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

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

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

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

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

Definitions

§ 60.4248 What definitions apply to this subpart?

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

Certified emissions life means the period during which the engine is designed to properly function in terms of reliability and fuel consumption, without being remanufactured, specified as a number of hours of operation or calendar years, whichever comes first. The values for certified emissions life for stationary SI ICE with a maximum engine power less than or equal to 19 KW (25 HP) are given in 40 CFR 90.105, 40 CFR 1054.107, and 40 CFR 1060.101, as appropriate. The values for certified emissions life for stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) certified to 40 CFR part 1048 are given in 40 CFR 1048.101(g). The certified emissions life for stationary SI ICE with a maximum engine power greater than 75 KW (100 HP) certified under the voluntary manufacturer certification program of this subpart is 5,000 hours or 7 years, whichever comes first. You may request in your application for certification that we approve a shorter certified emissions life for an engine family. We may approve a shorter certified emissions life, in hours of engine operation but not in years, if we determine that these engines will rarely operate longer than the shorter certified emissions life. If engines identical to those in the engine family have already been produced and are in use, your demonstration must include documentation from such in-use engines. In other cases, your demonstration must include an engineering analysis of information equivalent to such in-use data, such as data from research engines or similar engine models that are already in production. Your demonstration must also include any overhaul interval that you recommend, any mechanical warranty that you offer for the engine or its components, and any relevant customer design specifications. Your demonstration may include any other relevant information. The certified emissions life value may not be shorter than any of the following:

- (i) 1,000 hours of operation.
- (ii) Your recommended overhaul interval.
- (iii) Your mechanical warranty for the engine.

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

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

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

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.

Digester gas means any gaseous by-product of wastewater treatment typically formed through the anaerobic decomposition of organic waste materials and composed principally of methane and carbon dioxide (CO₂).

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 § 60.4243(d) in order to be considered emergency stationary ICE. If the engine does not comply with the requirements specified in § 60.4243(d), 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 § 60.4243(d).

(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 § 60.4243(d)(2)(ii) or (iii) and § 60.4243(d)(3)(i).

Engine manufacturer means the manufacturer of the engine. See the definition of "manufacturer" in this section.

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

Freshly manufactured engine means an engine that has not been placed into service. An engine becomes freshly manufactured when it is originally produced.

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.

Installed means the engine is placed and secured at the location where it is intended to be operated.

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 CO₂.

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

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

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

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

Model year means 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").

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

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

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

Rich burn engine means any four-stroke spark ignited engine where the manufacturer's recommended operating air/fuel ratio divided by the stoichiometric air/fuel ratio at full load conditions is less than or equal to 1.1. Engines originally manufactured as rich burn engines, but modified prior to June 12, 2006, with passive emission control technology for NO_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.

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

Spark ignition means relating to either: a gasoline-fueled engine; or any other type of engine with a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark ignition engines usually use a throttle to regulate intake air flow to control power during normal operation. Dual-fuel engines in which a liquid fuel (typically diesel fuel) is used for compression ignition and gaseous fuel (typically

natural gas) is used as the primary fuel at an annual average ratio of less than 2 parts diesel fuel to 100 parts total fuel on an energy equivalent basis are spark ignition engines.

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

Stationary internal combustion engine test cell/stand means an engine test cell/stand, as defined in 40 CFR part 63, subpart PPPPP, that tests stationary ICE.

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

Subpart means 40 CFR part 60, subpart JJJJ.

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

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

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

[73 FR 3591, Jan. 18, 2008, as amended at 73 FR 59177, Oct. 8, 2008; 76 FR 37974, June 28, 2011; 78 FR 6698, Jan. 30, 2013]

Table 1 to Subpart JJJJ of Part 60—NO_x, CO, and VOC Emission Standards for Stationary Non-Emergency SI Engines ≥100 HP (Except Gasoline and Rich Burn LPG), Stationary SI Landfill/Digester Gas Engines, and Stationary Emergency Engines >25 HP

Engine type and fuel	Maximum engine power	Manufacture date	Emission standards ^a					
			g/HP-hr			ppmvd at 15% O ₂		
			NO _x	CO	VOC ^d	NO _x	CO	VOC ^d
Non-Emergency SI Natural Gas ^b and Non-Emergency SI Lean Burn LPG ^b	100≤HP<500	7/1/2008	2.0	4.0	1.0	160	540	86
		1/1/2011	1.0	2.0	0.7	82	270	60
Non-Emergency SI Lean Burn Natural Gas and LPG	500≤HP<1,350	1/1/2008	2.0	4.0	1.0	160	540	86
		7/1/2010	1.0	2.0	0.7	82	270	60
Non-Emergency SI Natural Gas and Non-Emergency SI Lean Burn LPG (except lean burn 500≤HP<1,350)	HP≥500	7/1/2007	2.0	4.0	1.0	160	540	86
		7/1/2010	1.0	2.0	0.7	82	270	60
Landfill/Digester Gas (except lean burn 500≤HP<1,350)	HP<500	7/1/2008	3.0	5.0	1.0	220	610	80
		1/1/2011	2.0	5.0	1.0	150	610	80
		7/1/2007	3.0	5.0	1.0	220	610	80

Engine type and fuel	Maximum engine power	Manufacture date	Emission standards ^a					
			g/HP-hr			ppmvd at 15% O ₂		
			NO _x	CO	VOC ^d	NO _x	CO	VOC ^d
		7/1/2010	2.0	5.0	1.0	150	610	80
Landfill/Digester Gas Lean Burn	500≤HP<1,350	1/1/2008	3.0	5.0	1.0	220	610	80
		7/1/2010	2.0	5.0	1.0	150	610	80
Emergency	25<HP<130	1/1/2009	^c 10	387	N/A	N/A	N/A	N/A
	HP≥130		2.0	4.0	1.0	160	540	86

^a Owners and operators of stationary non-certified SI engines may choose to comply with the emission standards in units of either g/HP-hr or ppmvd at 15 percent O₂.

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

^c The emission standards applicable to emergency engines between 25 HP and 130 HP are in terms of NO_x+ HC.

^d For purposes of this subpart, when calculating emissions of volatile organic compounds, emissions of formaldehyde should not be included.

[76 FR 37975, June 28, 2011]

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

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

For each	Complying with the requirement to	You must	Using	According to the following requirements
1. Stationary SI internal combustion engine demonstrating compliance according to § 60.4244.	a. limit the concentration of NO _x in the stationary SI internal combustion engine exhaust	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, Appendix A or ASTM Method D6522-00 (Reapproved 2005).a e	(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;	(2) Method 3, 3A, or 3B ^b of 40 CFR part 60, appendix A or ASTM Method D6522-00 (Reapproved 2005). a e	(b) Measurements to determine O ₂ concentration must be made at the same time as the measurements for NO _x concentration.
		iii. If necessary, determine the exhaust flowrate of the stationary internal combustion engine exhaust;	(3) Method 2 or 19 of 40 CFR part 60, appendix A.	

For each	Complying with the requirement to	You must	Using	According to the following requirements
		iv. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and	(4) Method 4 of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03. ^e	(c) Measurements to determine moisture must be made at the same time as the measurement for NO _x concentration.
		v. Measure NO _x at the exhaust of the stationary internal combustion engine.	(5) Method 7E of 40 CFR part 60, appendix A, Method D6522-00 (Reapproved 2005) a e, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03. ^e	(d) Results of this test consist of the average of the three 1-hour or longer runs.
	b. limit the concentration of CO in the stationary SI internal combustion engine exhaust	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, appendix A or ASTM Method D6522-00 (Reapproved 2005). a e	(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;	(2) Method 3, 3A, or 3B ^b of 40 CFR part 60, appendix A or ASTM Method D6522-00 (Reapproved 2005). a e	(b) Measurements to determine O ₂ concentration must be made at the same time as the measurements for CO concentration.
		iii. If necessary, determine the exhaust flow rate of the stationary internal combustion engine exhaust;	(3) Method 2 or 19 of 40 CFR part 60, appendix A.	
		iv. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and	(4) Method 4 of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03. ^e	(c) Measurements to determine moisture must be made at the same time as the measurement for CO concentration.
		v. Measure CO at the exhaust of the stationary internal combustion engine.	(5) Method 10 of 40 CFR part 60, appendix A, ASTM Method D6522-00 (Reapproved 2005) a e, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03. ^e	(d) 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
	c. limit the concentration of VOC in the stationary SI internal combustion engine exhaust	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, appendix A.	(a) If using a control device, the sampling site must be located at the outlet of the control device.
		ii. Determine the O ₂ concentration of the stationary internal combustion engine exhaust at the sampling port location;	(2) Method 3, 3A, or 3B ^b of 40 CFR part 60, appendix A or ASTM Method D6522-00 (Reapproved 2005). ^{a e}	(b) Measurements to determine O ₂ concentration must be made at the same time as the measurements for VOC concentration.
		iii. If necessary, determine the exhaust flowrate of the stationary internal combustion engine exhaust;	(3) Method 2 or 19 of 40 CFR part 60, appendix A.	
		iv. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and	(4) Method 4 of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03. ^e	(c) Measurements to determine moisture must be made at the same time as the measurement for VOC concentration.
		v. Measure VOC at the exhaust of the stationary internal combustion engine.	(5) Methods 25A and 18 of 40 CFR part 60, appendix A, Method 25A with the use of a methane cutter as described in 40 CFR 1065.265, Method 18 of 40 CFR part 60, appendix A, c d Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03. ^e	(d) Results of this test consist of the average of the three 1-hour or longer runs.

^a You may petition the Administrator for approval to use alternative methods for portable analyzer.

^b You may use ASME PTC 19.10-1981, Flue and Exhaust Gas Analyses, for measuring the O₂ content of the exhaust gas as an alternative to EPA Method 3B.

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

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

^e Incorporated by reference, see 40 CFR 60.17.

[76 FR 37975, June 28, 2011, as amended at 78 FR 6698, Jan. 30, 2013]

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

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

General provisions citation	Subject of citation	Applies to subpart	Explanation
§ 60.1	General applicability of the General Provisions	Yes	
§ 60.2	Definitions	Yes	Additional terms defined in § 60.4248.
§ 60.3	Units and abbreviations	Yes	
§ 60.4	Address	Yes	
§ 60.5	Determination of construction or modification	Yes	
§ 60.6	Review of plans	Yes	
§ 60.7	Notification and Recordkeeping	Yes	Except that § 60.7 only applies as specified in § 60.4245.
§ 60.8	Performance tests	Yes	Except that § 60.8 only applies to owners and operators who are subject to performance testing in subpart JJJJ.
§ 60.9	Availability of information	Yes	
§ 60.10	State Authority	Yes	
§ 60.11	Compliance with standards and maintenance requirements	Yes	Requirements are specified in subpart JJJJ.
§ 60.12	Circumvention	Yes	
§ 60.13	Monitoring requirements	No	
§ 60.14	Modification	Yes	
§ 60.15	Reconstruction	Yes	
§ 60.16	Priority list	Yes	
§ 60.17	Incorporations by reference	Yes	
§ 60.18	General control device requirements	No	
§ 60.19	General notification and reporting requirements	Yes	

Table 4 to Subpart JJJJ of Part 60—Applicability of Mobile Source Provisions for Manufacturers Participating in the Voluntary Certification Program and Certifying Stationary SI ICE to Emission Standards in Table 1 of Subpart JJJJ

[As stated in § 60.4247, you must comply with the following applicable mobile source provisions if you are a manufacturer participating in the voluntary certification program and certifying stationary SI ICE to emission standards in Table 1 of subpart JJJJ]

Mobile source provisions citation	Subject of citation	Applies to subpart	Explanation
1048 subpart A	Overview and Applicability	Yes	
1048 subpart B	Emission Standards and Related Requirements	Yes	Except for the specific sections below.
1048.101	Exhaust Emission Standards	No	
1048.105	Evaporative Emission Standards	No	
1048.110	Diagnosing Malfunctions	No	
1048.140	Certifying Blue Sky Series Engines	No	
1048.145	Interim Provisions	No	
1048 subpart C	Certifying Engine Families	Yes	Except for the specific sections below.
1048.205(b)	AECD reporting	Yes	
1048.205(c)	OBD Requirements	No	
1048.205(n)	Deterioration Factors	Yes	Except as indicated in 60.4247(c).
1048.205(p)(1)	Deterioration Factor Discussion	Yes	
1048.205(p)(2)	Liquid Fuels as they require	No	
1048.240(b)(c)(d)	Deterioration Factors	Yes	
1048 subpart D	Testing Production-Line Engines	Yes	
1048 subpart E	Testing In-Use Engines	No	
1048 subpart F	Test Procedures	Yes	
1065.5(a)(4)	Raw sampling (refers reader back to the specific emissions regulation for guidance)	Yes	
1048 subpart G	Compliance Provisions	Yes	
1048 subpart H	Reserved		
1048 subpart I	Definitions and Other Reference Information	Yes	
1048 appendix I and II	Yes		
1065 (all subparts)	Engine Testing Procedures	Yes	Except for the specific section below.
1065.715	Test Fuel Specifications for Natural Gas	No	
1068 (all subparts)	General Compliance Provisions for Nonroad Programs	Yes	Except for the specific sections below.
1068.245	Hardship Provisions for Unusual Circumstances	No	

Mobile source provisions citation	Subject of citation	Applies to subpart	Explanation
1068.250	Hardship Provisions for Small-Volume Manufacturers	No	
1068.255	Hardship Provisions for Equipment Manufacturers and Secondary Engine Manufacturers	No	

Attachment B

Part 70 Operating Permit Renewal No: 033-31290-00038

Electronic Code of Federal Regulations

Title 40: Protection of Environment

Part 63, 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:

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

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:

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

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 ($\text{dscf}/10^6$ 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 ($\text{dscf}/10^6$ Btu)

(ii) Calculate the CO_2 correction factor for correcting measurement data to 15 percent O_2 , as follows:

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

Where:

X_{CO_2} = 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:

$$C_{\text{adj}} = C_d \frac{X_{\text{CO}_2}}{\% \text{CO}_2} \quad (\text{Eq. 4})$$

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_{CO_2} = CO_2 correction factor, percent.

$\% \text{CO}_2$ = 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 O₂ or CO₂ 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 CO₂ 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 O₂ using one of the O₂ measurement methods specified in Table 4 of this subpart. Measurements to determine O₂ 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 O₂ 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 O₂ using one of the O₂ measurement methods specified in Table 4 of this subpart. Measurements to determine O₂ 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 O₂ 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 CO₂ .

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 CO₂.

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 CO₂, 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 C₃H₈.

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 P of this part, that tests stationary RICE.

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

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

Institute gravity equal to or greater than 40 degrees and an actual annual average hydrocarbon liquid throughput equal to or greater than 79,500 liters per day. Flash emissions occur when dissolved hydrocarbons in the fluid evolve from solution when the fluid pressure is reduced.

Subpart means 40 CFR part 63, subpart ZZZZ.

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

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

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3607, Jan. 18, 2008; 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 1 a 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	

¹Sources 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 1 b 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:

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 2 a 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	

For each . . .	You must meet the following emission limitation, except during periods of startup . . .	During periods of startup you must . . .
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 2 b 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:

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.
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	

For each . . .	You must meet the following operating limitation, except during periods of startup . . .
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 2 c 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:

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	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	
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	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
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 2 d 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:

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.	
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.	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
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	
	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	

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 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.	
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:

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:

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.
		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.

For each . . .	Complying with the requirement to . . .	You must . . .	Using . . .	According to the following requirements . . .
		ii. Determine the O ₂ concentration of the stationary RICE exhaust at the sampling port location; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A, or ASTM Method D6522-00 (Reapproved 2005). ^a	(a) measurements to determine O ₂ concentration 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.

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:

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
<p>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</p>	<p>a. Reduce CO emissions and using oxidation catalyst, and using a CPMS</p>	<p>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.</p>
<p>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</p>	<p>a. Limit the concentration of CO, using oxidation catalyst, and using a CPMS</p>	<p>i. The average CO concentration determined from the initial performance test is less than or equal to the CO emission limitation; and</p>
		<p>ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in § 63.6625(b); and</p>
		<p>iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.</p>
<p>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</p>	<p>a. Reduce CO emissions and not using oxidation catalyst</p>	<p>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.</p>
<p>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</p>	<p>a. Limit the concentration of CO, and not using oxidation catalyst</p>	<p>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</p>
		<p>iii. You have recorded the approved operating parameters (if any) during the initial performance test.</p>

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
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
		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

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
		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.
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:

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.

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
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.
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 $\geq 5,000$ 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 $250 \leq \text{HP} \leq 500$ 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 $250 \leq \text{HP} \leq 500$ 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 . . .
<p>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</p>	<p>a. Work or Management practices</p>	<p>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.</p>
<p>10. Existing stationary CI RICE >500 HP that are not limited use stationary RICE</p>	<p>a. Reduce CO emissions, or limit the concentration of CO in the stationary RICE exhaust, and using oxidation catalyst</p>	<p>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</p>
		<p>ii. Collecting the catalyst inlet temperature data according to § 63.6625(b); and</p>
		<p>iii. Reducing these data to 4-hour rolling averages; and</p>
		<p>iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and</p>
		<p>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.</p>
<p>11. Existing stationary CI RICE >500 HP that are not limited use stationary RICE</p>	<p>a. Reduce CO emissions, or limit the concentration of CO in the stationary RICE exhaust, and not using oxidation catalyst</p>	<p>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</p>
		<p>ii. Collecting the approved operating parameter (if any) data according to § 63.6625(b); and</p>

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
		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
		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.

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
<p>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</p>	<p>a. Install an oxidation catalyst</p>	<p>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 O₂; 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.</p>
<p>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</p>	<p>a. Install NSCR</p>	<p>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 O₂, 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.</p>

^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.

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:

For each . . .	You must submit a . . .	The report must contain . . .	You must submit the report . . .
<p>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</p>	<p>Compliance report</p>	<p>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</p>	<p>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.</p>
		<p>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</p>	<p>i. Semiannually according to the requirements in § 63.6650(b).</p>
		<p>c. If you had a malfunction during the reporting period, the information in § 63.6650(c)(4).</p>	<p>i. Semiannually according to the requirements in § 63.6650(b).</p>
<p>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</p>	<p>Report</p>	<p>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</p>	<p>i. Annually, according to the requirements in § 63.6650.</p>
		<p>b. The operating limits provided in your federally enforceable permit, and any deviations from these limits; and</p>	<p>i. See item 2.a.i.</p>
		<p>c. Any problems or errors suspected with the meters.</p>	<p>i. See item 2.a.i.</p>
<p>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</p>	<p>Compliance report</p>	<p>a. The results of the annual compliance demonstration, if conducted during the reporting period.</p>	<p>i. Semiannually according to the requirements in § 63.6650(b)(1)-(5).</p>

For each . . .	You must submit a . . .	The report must contain . . .	You must submit the report . . .
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.	
§ 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.

General provisions citation	Subject of citation	Applies to subpart	Explanation
§ 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.
		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.	

General provisions citation	Subject of citation	Applies to subpart	Explanation
§ 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.	
§ 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 (O₂) 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 (O₂).

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 O₂, 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 O₂ 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 O₂ 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 O₂ and moisture in the electrolyte reserve and provides a mechanism to degas 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 NO₂ 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 O₂ 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 O₂; 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 O₂. 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 O₂) is acceptable for calibration of the O₂ cell. If needed, any lower percentage O₂ calibration gas must be a mixture of O₂ 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 O₂ Calibration Gas Concentration.

Select an O₂ 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 O₂. When the average exhaust gas O₂ readings are above 6 percent, you may use dry ambient air (20.9 percent O₂) for the up-scale O₂ 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., CO₂).

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 O₂ 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 O₂ 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 O₂ for the O₂ 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 O₂, 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 O₂, 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 O₂ 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 NO₂ gas standards that are generally recognized as representative of diesel-fueled engine NO and NO₂ 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 NO₂ 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.

14.0 Pollution Prevention (Reserved)

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									
Sample Cond. Phase											
"											
"											
"											
"											
Measurement Data Phase											
"											
"											
"											
"											
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Mean											
Refresh Phase											
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"											
"											

[78 FR 6721, Jan. 30, 2013]

**Indiana Department of Environmental Management
Office of Air Quality**

Addendum to the Technical Support Document (ATSD) for a
Part 70 Significant Permit Modification

Source Background and Description

Source Name:	Nucor Fastener
Source Location:	6730 County Road 60, St. Joe, Indiana 46785
County:	DeKalb
SIC Code:	3452 (Bolts, Nuts, Screws, Rivets, and Washers) Washers)
Operation Permit No.:	T 033-31290-00038
Operation Permit Issuance Date:	August 10, 2012
Significant Permit Modification No.:	033-34368-00038
Permit Reviewer:	Brian Williams

On June 16, 2014, the Office of Air Quality (OAQ) had a notice published in the Auburn Evening Star, Auburn, Indiana, stating that Nucor Fastener had applied for a significant permit modification to modify the existing sulfuric acid pickling facility, cooling towers at the concrete pond, and accept PSD minor limits for greenhouse gases (GHGs). The notice also stated that the OAQ proposed to issue a significant 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 June 26 and July 5, 2014, Nucor Fastener submitted comments to IDEM, OAQ on the draft significant permit modification.

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:

Section D.1.1, items (b) thru (d) and (f) thru (h) list the GHG AP-42 emission factors for natural gas combustion and propane. What purpose do these have listed here? They are documented in Appendix A as the basis for the emission rate calculations.

Response to Comment 1:

Emission factors are not practically enforceable unless they are specified in the actual permit. Therefore, in order to limit the source-wide GHG emissions to less than 100,000 tons per year, IDEM must include practically enforceable emission limits. Without CO₂, CH₄, and N₂O emission limits a fuel usage limit on its own does not limit the emissions from the source, since it does not mathematically equate to tons of pollutant emitted per year. If IDEM did not specify CO₂, CH₄, and N₂O emission limits in the permit nothing would preclude the CO₂, CH₄, and N₂O from exceeding the emission factors in Appendix A. In this case the emission limits just happen to also be the AP-42 emission factors. No changes were made as a result of this comment.

Note: Please see Additional Changes below regarding GHGs.

Comment 2:

Nucor Fastener notified IDEM that the parts waxing line and phosphate and oil line have been removed from the facility. In addition, Nucor Fastener requested to clarify that the generator serves the bell annealing furnaces, fire pond, and water wells not the Holcraft belt heat treat furnace.

Response to Comment 2:

IDEM agrees with the recommended changes. The permit has been revised as follows (see table below for updated source-wide limited potential to emit):

...

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

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

...

- ~~(h) — One (1) parts waxing line, approved for construction in 2008, for the application of a light coating of wax to product for rust prevention, with a maximum usage of 2,250 gallons of wax per year, and emissions uncontrolled; and~~
- ~~(i) — One (1) phosphate and oil line for processing carbon steel fasteners, approved for construction in 2008, with an annual throughput of 8,136 gallons of chemicals and 396,000 gallons of water, consisting of the following:
 - ~~(1) — One (1) Degreaser tank, with a storage capacity of 250 gallons;~~
 - ~~(2) — Seven (7) Rinse Water tanks, each with a storage capacity of 250 gallons;~~
 - ~~(3) — One (1) De-phosphate tank, with a storage capacity of 350 gallons;~~
 - ~~(4) — One (1) Sulfuric Acid tank, with a storage capacity of 600 gallons;~~
 - ~~(5) — One (1) Activator tank, with a storage capacity of 250 gallons;~~
 - ~~(6) — Two (2) Zinc Phosphate tanks, one with a storage capacity of 600 gallons and one with a storage capacity of 250 gallons;~~
 - ~~(7) — One (1) Neutralizer tank, with a storage capacity of 250 gallons;~~
 - ~~(8) — One (1) Dry Oil tank, with a storage capacity of 250 gallons; and~~
 - ~~(9) — One (1) Wet Oil tank, with a storage capacity of 250 gallons.~~~~
- (jh)** Endothermic generators, to be constructed in 2009, with a maximum capacity of 1.3 MMBtu/hr.
- (ki)** One (1) waste oil heater, to be constructed in 2009, with a maximum capacity of 0.5 MMBtu/hr.
- (lj)** One (1) waste oil heater, to be constructed in 2009, with a maximum capacity of 0.15 MMBtu/hr.
- (mk)** One (1) cooling tower at the concrete pond, approved in 2014 for construction, with a maximum water circulation rate of 1,950 gallons per minute.

- (nl) Two (2) cooling towers (975 gpm each) serving the Holcroft belt heat treat furnace and nut forming machine.
- (om) One (1) four-stroke rich-burn natural gas-fired emergency generator, serving the ~~Holcraft belt heat treat furnace~~ **bell annealing furnaces, fire pond and water wells**, with a maximum capacity of 1.95 mmBtu/hr or 150 kilowatts, and manufactured in September 2011.
- ...
- (pn) Twenty two (22) bolt-making machines, (#1-#3, #8-#9, #12-#17, #19, #21-#24) permitted in 1986, (#4) constructed in 1994, (#7 and #25) constructed in 2000, (#11) constructed in 2003, (#30) constructed in 2004 and (#10) constructed in 2008, with a total maximum capacity of 43.2 tons of steel per hour, using a total of 124,000 pounds of coolant and oil lubricant per year, with emissions from bolt-making machines controlled by three (3) wet Venturi scrubbers, including:

SECTION E.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (om) One (1) four-stroke rich-burn natural gas-fired emergency generator, serving the ~~Holcraft belt heat treat furnace~~ **bell annealing furnaces, fire pond and water wells**, with a maximum capacity of 1.95 mmBtu/hr or 150 kilowatts, and manufactured in September 2011.
- ...

SECTION E.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (om) One (1) four-stroke rich-burn natural gas-fired emergency generator, serving the ~~Holcraft belt heat treat furnace~~ **bell annealing furnaces, fire pond and water wells**, with a maximum capacity of 1.95 mmBtu/hr or 150 kilowatts, and manufactured in September 2011.
- ...

Additional Changes

IDEM, OAQ has decided to make additional revisions to the permit as described below, with deleted language as ~~strikeouts~~ and new language **bolded**.

- (a) This significant permit modification included the addition of GHG limits to limit the combined source-wide emissions to less than 100,000 tons per year. On June 23, 2014, the US Supreme Court issued a decision on permitting of GHGs by the US EPA. Based on the ruling the 100,000 ton threshold is considered invalid. The US Supreme Court found that the EPA exceeded its statutory authority when it interpreted the Clean Air Act to require PSD and Title V permitting for stationary sources based on their greenhouse-gas emissions. Specifically, the Agency may not treat greenhouse gases as a pollutant for purposes of defining a "major emitting facility" (or a "modification" thereof) in the PSD context or a "major source" in the Title V context. Nucor Fastener is a PSD minor source for all other PSD regulated pollutants. Therefore, IDEM OAQ has removed the GHG limits from the permit as follows (see table below for updated source-wide limited potential to emit and Appendix A of this ATSD for detailed emission calculations):

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

...

Insignificant Activities:

(a) Natural gas-fired space heaters, with a total maximum capacity of 8.3 mmBtu/hr;

(b) Natural gas-fired air makeup units, with a total maximum capacity of 50.23 mmBtu/hr;

...

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

D.1.1 PSD Minor Limits [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the Permittee shall comply with the following:

- (a) The total natural gas usage for the two (2) boilers (1994 and EP54), space heaters, and air make-up units at Nucor Fastener shall not exceed 391.83 million cubic feet (MMCF) per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) CO₂ emissions from natural gas combustion shall not exceed 120,000 pounds per million cubic feet (lb/MMCF).
- (c) CH₄ emissions from natural gas combustion shall not exceed 2.3 pounds per million cubic feet (lb/MMCF).
- (d) N₂O emissions from natural gas combustion shall not exceed 2.2 pounds per million cubic feet (lb/MMCF).
- (e) The total propane usage for the two (2) boilers (1994 and EP54) shall not exceed 174.02 kilogallons (kgal) per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (f) CO₂ emissions from propane combustion shall not exceed 12,500 pounds per kilogallon (lb/kgal).
- (g) CH₄ emissions from propane combustion shall not exceed 0.2 pounds per kilogallon (lb/kgal).
- (h) N₂O emissions from propane combustion shall not exceed 0.9 pounds per kilogallon (lb/kgal).

Compliance with these limits, combined with the potential to emit greenhouse gases from all other emission units at this combined source (Nucor Fastener and Nucor Vulcraft Group — St. Joe Division), shall limit the source-wide total potential to emit greenhouse gases (GHGs) to less than 100,000 tons of CO₂ equivalent emissions (CO₂e) per 12 consecutive month period and shall render the requirements of 326 IAC 2-2 (PSD) not applicable.

D.1.21 Particulate [326 IAC 6-2-4]

...

D.1.32 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

...

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

~~D.1.4 Record Keeping Requirements~~

- ~~(a) To document the compliance status with Condition D.1.1(a), the Permittee shall maintain monthly records of the natural gas usage for the two (2) boilers (1994 and EP54), space heaters, and air make-up units.~~
- ~~(b) To document the compliance status with Condition D.1.1(e), the Permittee shall maintain monthly records of the propane usage for the two (2) boilers (1994 and EP54).~~
- ~~(c) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.~~

~~D.1.5 Reporting Requirements~~

~~A quarterly summary of the information to document the compliance status with Conditions D.1.1(a) and D.1.1(e) shall be submitted using the reporting form located at the end of this permit, or its equivalent, not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official," as defined by 326 IAC 2-7-1(35).~~

...

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

~~Part 70 Quarterly Report~~

~~Source Name: Nucor Fastener
 Source Address: 6730 County Road 60, St. Joe, Indiana 46785
 Part 70 Permit No.: T033-31290-00038
 Facility: Two (2) boilers (1994 and EP54), space heaters, and air make-up units
 Parameter: Natural Gas Usage
 Limit: The total natural gas usage for the two (2) boilers (1994 and EP54), space heaters, and air make-up units shall not exceed 391.83 million cubic feet (MMCF) per twelve (12) consecutive month period, with compliance determined at the end of each month.~~

~~YEAR: _____~~

Month	Natural Gas Usage for This Month (MMCF)	Natural Gas Usage for Previous 11 Months (MMCF)	Natural Gas Usage for 12-Month Period (MMCF)
Month 1			
Month 2			
Month 3			

~~No deviation occurred in this quarter.~~

Deviation/s occurred in this quarter.
~~— Deviation has been reported on:~~

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

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

Part 70 Quarterly Report

Source Name: _____ Nucor Fastener
Source Address: _____ 6730 County Road 60, St. Joe, Indiana 46785
Part 70 Permit No.: _____ T033-31290-00038
Facility: _____ Two (2) boilers (1994 and EP54)
Parameter: _____ Propane Usage
Limit: _____ The total propane usage for the two (2) boilers (1994 and EP54) shall not exceed 174.02 kilogallons (kgal) per twelve (12) consecutive month period, with compliance determined at the end of each month.

YEAR: _____

Month	Propane Usage for This Month (kgal)	Propane Usage for Previous 11 Months (kgal)	Propane Usage for 12-Month Period (kgal)
Month 1			
Month 2			
Month 3			

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
~~— Deviation has been reported on:~~

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

Permit Level Determination – PSD

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

Process/ Emission Unit	Potential to Emit (tons/year)									
	PM	PM10 ¹	PM2.5 ¹	SO ₂	NOx	VOC	CO	GHGs as CO ₂ e	Total HAPs	Worst Single HAP
Nucor Fastener (033-00038)										
Boiler (1994)	0.09	0.33	0.33	0.03	6.10	0.47	3.54	5,996	0.08	0.08 Hexane
Boiler, EP54 (2000)	0.08	0.28	0.28	0.02	5.21	0.40	3.02	5,118	0.07	0.06 Hexane
Space Heaters	0.07	0.27	0.27	0.02	3.56	0.20	2.99	4,302	0.07	0.06 Hexane
Air Makeup Units	0.41	1.64	1.64	0.13	21.57	1.19	18.12	26,037	0.41	0.39 Hexane
Eight (8) Annealing Furnaces	0.42	1.68	1.68	0.13	22.05	1.21	18.53	26,623	0.42	0.40 Hexane
Four (4) Heat Treat Furnaces	0.36	1.44	1.44	0.11	18.96	1.04	15.93	22,885	0.36	0.34 Hexane
Sulfuric Acid Pickling Facility (1999 and 2014)	6.92	6.92	6.92	6.92	0.00	0.00	0.00	0.00	0.00	0.00
One (1) Nut Former	4.20	4.20	4.20	0.00	0.00	0.17	0.00	0.00	0.00	0.00
Tumble Blaster	17.73	17.73	17.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bolt Formers Using Smog Hog Oil Mist	84.29	84.29	84.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bolt Formers Using Venturi Scrubbers	6.20	6.20	6.20	0.00	0.00	31.00	0.00	0.00	0.00	0.00
Endothermic Generators	0.01	0.04	0.04	0.00	0.56	0.03	0.47	674	0.01	0.01 Hexane
Waste Oil Heaters	0.04	0.04	0.04	0.47	0.17	0.02	0.03	359	0.01	0.01 Lead
Cooling Towers	0.53	0.09	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas Emergency Generator	0.00	0.01	0.01	0.00	1.08	0.01	1.81	69	0.02	0.01 Formaldehyde
Nucor Vulcraft - St. Joe Division (033-00027) ²	53.13	53.73	53.73	0.06	10.48	210.58	8.80	12,648	7.34	7.14 Manganese
Total PTE of Entire Source	174.50	178.89	178.89	7.90	89.74	246.31	73.23	104,771	8.77	7.14 Manganese
Title V Major Source Thresholds	NA	100	100	100	100	100	100	100,000	25	10
PSD Major Source Thresholds	250	250	250	250	250	250	250	100,000	NA	NA

negl. = negligible

¹ Under the Part 70 Permit program (40 CFR 70), PM10 and PM2.5, not particulate matter (PM), are each considered as a "regulated air pollutant".

² Limited PTE based on proposed emission limits in pending Significant Permit Modification No. 033-34369-00027.

IDEM Contact

- (a) Questions regarding this proposed significant permit modification can be directed to Brian Williams 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) 234-5375 or toll free at 1-800-451-6027 extension 4-5375.
- (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 Permit Guide on the Internet at: <http://www.in.gov/idem/5881.htm>; and the Citizens' Guide to IDEM on the Internet at: <http://www.in.gov/idem/6900.htm>.

Appendix A: Emission Calculations
Summary of Emissions from the Modified Emission Units

Company Name: NUCOR Fastener
Significant Permit Modification No: 033-34368-00038
Permit Reviewer: Brian Williams

Unlimited Potential to Emit (tons/year)											
Source	PM	PM10	PM2.5	SO2	NOx	VOC	CO	GHGs as CO2e	Total HAPs	Highest Single HAP	
Sulfuric Acid Pickling Facility	3.46	3.46	3.46	3.46	0	0	0	0	0	0	
Cooling Tower*	0	0	0	0	0	0	0	0	0	0	
Total	3.46	3.46	3.46	3.46	0	0	0	0	0	0	

* This cooling tower is replacing two (2) existing cooling towers and will have the same maximum water circulation rate. Therefore, the unlimited potential to emit will not change.

Appendix A: Emission Calculations
Summary of Emissions for the Combined Source

Company Name: NUCOR Fastener and NUCOR Vulcraft Group - St. Joe Division
Significant Permit Modification No: 033-34368-00038
Permit Reviewer: Brian Williams

Unlimited Potential to Emit (tons/year)											
Source	PM	PM10	PM2.5	SO2	NOx	VOC	CO	GHGs as CO2e	Total HAPs	Highest Single HAP	
NUCOR Vulcraft Group - St. Joe Division (Plant ID 033-00027)	775.87	776.47	776.47	0.06	10.48	1,021	8.80	12,648	7.34	7.14	Manganese
NUCOR Fastener (Plant ID 033-00038)	121.36	125.16	125.16	7.84	79.27	35.74	64.43	92,063	1.43	1.34	Hexane
Total	897.23	901.62	901.62	7.90	89.74	1,057	73.23	104,711	8.77	7.14	Manganese

Limited Potential to Emit (tons/year)											
Process/Emission Unit	PM	PM10	PM2.5	SO2	NOx	VOC	CO	GHGs as CO2e	Total HAPs	Highest Single HAP	
NUCOR Vulcraft Group - St. Joe Division (Plant ID 033-00027)	53.13	53.73	53.73	0.06	10.48	210.58	8.80	12,648	7.34	7.14	Manganese
NUCOR Fastener (Plant ID 033-00038)	121.36	125.16	125.16	7.84	79.27	35.74	64.43	92,063	1.43	1.34	Hexane
Total	174.50	178.89	178.89	7.90	89.74	246.31	73.23	104,711	8.77	7.14	Manganese

**Appendix A: Emission Calculations
Summary of Emissions**

Company Name: NUCOR Fastener
Address City IN Zip: 6730 County Road 60, St. Joe, Indiana 46785
Significant Permit Modification No: 033-34368-00038
Permit Renewal No: T033-31290-00038
Plt ID: 033-00038
Permit Reviewer: Brian Williams

Unlimited Potential to Emit (tons/year)											
Process/Emission Unit	PM	PM10	PM2.5	SO2	NOx	VOC	CO	GHGs as CO2e	Total HAPs	Highest Single HAP	
Boiler, Installed in 1994	0.09	0.33	0.33	0.03	6.10	0.47	3.54	5,996.38	0.08	0.08	Hexane
Boiler, EP54	0.08	0.28	0.28	0.02	5.21	0.40	3.02	5,117.74	0.07	0.06	Hexane
Space Heaters	0.07	0.27	0.27	0.02	3.56	0.20	2.99	4,302.36	0.07	0.06	Hexane
Air Makeup Units	0.41	1.64	1.64	0.13	21.57	1.19	18.12	26,037.03	0.41	0.39	Hexane
Eight (8) Annealing Furnaces	0.42	1.68	1.68	0.13	22.05	1.21	18.53	26,622.78	0.42	0.40	Hexane
Four (4) Heat Treat Furnaces	0.36	1.44	1.44	0.11	18.96	1.04	15.93	22,885.43	0.36	0.34	Hexane
Sulfuric Acid Pickling Facility	6.92	6.92	6.92	6.92	0	0	0	0	0	0	
One (1) Nut Former	4.20	4.20	4.20	0	0	0.17	0	0	0	0	
Tumble Blaster	17.73	17.73	17.73	0	0	0	0	0	0	0	
Bolt Formers Using Smog Hog Oil Mist	84.29	84.29	84.29	0	0	0	0	0	0	0	
Bolt Formers Using Venturi Scrubbers	6.20	6.20	6.20	0	0	31.00	0	0	0	0	
Endothermic Generators	0.01	0.04	0.04	0.00	0.56	0.03	0.47	673.86	0.01	0.01	Hexane
Waste Oil Heaters	0.04	0.04	0.04	0.47	0.17	0.02	0.03	358.51	0.01	0.01	Lead
Cooling Towers	0.53	0.09	0.09	0	0	0	0	0	0	0	
Natural Gas Emergency Generator	0.005	0.01	0.01	0.0003	1.08	0.01	1.81	69.17	0.02	0.01	Formaldehyde
Total	121.36	125.16	125.16	7.84	79.27	35.74	64.43	92,063	1.43	1.34	Hexane

Limited Potential to Emit (tons/year)											
Process/Emission Unit	PM	PM10	PM2.5	SO2	NOx	VOC	CO	GHGs as CO2e	Total HAPs	Highest Single HAP	
Boiler, Installed in 1994	0.09	0.33	0.33	0.03	6.10	0.47	3.54	5,996	0.08	0.08	Hexane
Boiler, EP54	0.08	0.28	0.28	0.02	5.21	0.40	3.02	5,118	0.07	0.06	Hexane
Space Heaters	0.07	0.27	0.27	0.02	3.56	0.20	2.99	4,302	0.07	0.06	Hexane
Air Makeup Units	0.41	1.64	1.64	0.13	21.57	1.19	18.12	26,037	0.41	0.39	Hexane
Eight (8) Annealing Furnaces	0.42	1.68	1.68	0.13	22.05	1.21	18.53	26,623	0.42	0.40	Hexane
Four (4) Heat Treat Furnaces	0.36	1.44	1.44	0.11	18.96	1.04	15.93	22,885	0.36	0.34	Hexane
Sulfuric Acid Pickling Facility	6.92	6.92	6.92	6.92	0.00	0.00	0.00	0.00	0.00	0.00	
One (1) Nut Former	4.20	4.20	4.20	0.00	0.00	0.17	0.00	0.00	0.00	0.00	
Tumble Blaster	17.73	17.73	17.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Bolt Formers Using Smog Hog Oil Mist	84.29	84.29	84.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Bolt Formers Using Venturi Scrubbers	6.20	6.20	6.20	0.00	0.00	31.00	0.00	0.00	0.00	0.00	
Endothermic Generators	0.01	0.04	0.04	0.00	0.56	0.03	0.47	674	0.01	0.01	Hexane
Waste Oil Heaters	0.04	0.04	0.04	0.47	0.17	0.02	0.03	359	0.01	0.01	Lead
Cooling Towers	0.53	0.09	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Natural Gas Emergency Generator	0.00	0.01	0.01	0.00	1.08	0.01	1.81	69	0.02	0.01	Formaldehyde
Total	121.36	125.16	125.16	7.84	79.27	35.74	64.43	92,063	1.43	1.34	Hexane

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

Company Name: NUCOR Fastener
Address City IN Zip: 6730 County Road 60, St. Joe, Indiana 46785
Significant Permit Modification No: 033-34368-00038
Permit Renewal No: T033-31290-00038
Pit ID: 033-00038
Permit Reviewer: Brian Williams

1. Process Description

Emission Unit ID	Heat Input Capacity (MMBtu/hr)
Boiler (1994)	9.81
Boiler (EP54)	8.37
Space Heaters	8.30
Air Makeup Units	50.23
Eight Annealing Furnaces	51.36
Four Heat Treat Furnaces	44.15
Endothermic Generators	1.30
Total	173.52

2. Combustion Emissions - Criteria Pollutants

NOx Burner Type	Fuel Heat Value (MMBtu/MMCF)	Emission Factor (lbs/MMCF)						
		PM*	PM10*	direct PM2.5	SO ₂	NOx**	VOC	CO
Ordinary Burners	1,020	1.9	7.6	7.6	0.6	100	5.5	84.0

* PM emission factor is for filterable PM only. PM10 emission factor is for condensable PM10 and filterable PM combined.
 ** Emission factors for NOx: Uncontrolled = 100 lbs/MMCF, Low NOx Burners = 50 lbs/MMCF
 Emission factors are from AP 42, Chapter 1.4, Tables 1.4-1, and 1.4-2, SCC 1-01-006-02, 1-02-006-02, 1-03-006-02, 1-03-006-03. (7/98)

Emission Unit ID	Potential Throughput (MMCF/yr)	Potential To Emit (tons/yr)						
		PM	PM10	direct PM2.5	SO ₂	NOx	VOC	CO
Boiler (1994)	84.22	0.08	0.32	0.32	0.03	4.21	0.23	3.54
Boiler (EP54)	71.88	0.07	0.27	0.27	0.022	3.59	0.20	3.02
Space Heaters	71.28	0.068	0.27	0.27	0.021	3.56	0.20	2.99
Air Makeup Units	431.39	0.41	1.64	1.64	0.13	21.57	1.19	18.12
Eight Annealing Furnaces	441.09	0.419	1.68	1.68	0.132	22.05	1.21	18.53
Four Heat Treat Furnaces	379.17	0.360	1.44	1.44	0.114	18.96	1.04	15.93
Endothermic Generators	11.16	0.011	0.04	0.04	0.003	0.56	0.03	0.47
Total	1,490.20	1.42	5.66	5.66	0.45	74.51	4.10	62.59

Methodology

Maximum Potential Throughput (MMCF/yr) = Heat Input Capacity (MMBtu/hr) x 8,760 (hrs/yr) x 1 MMCF/1,000 MMBtu
 Potential To Emit (tons/year) = Throughput (MMCF/yr) x Emission Factor (lbs/MMCF) x 1 ton/2,000 lbs

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

3. Combustion Emissions - HAP Pollutants

Emission Factor (lbs/MMCF)									
Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	Cadmium	Chromium	Manganese	Mercury	Nickel
2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	1.1E-03	1.4E-03	3.8E-04	2.6E-04	2.1E-03

Emission Unit ID	Potential To Emit (tons/yr)											
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	Cadmium	Chromium	Manganese	Mercury	Nickel	Total HAPs	Single HAP
Boiler (1994)	8.84E-05	5.05E-05	3.16E-03	7.58E-02	1.43E-04	4.63E-05	5.90E-05	1.60E-05	1.09E-05	8.84E-05	7.95E-02	7.58E-02
Boiler (EP54)	7.55E-05	4.31E-05	2.70E-03	6.47E-02	1.22E-04	3.95E-05	5.03E-05	1.37E-05	9.34E-06	7.55E-05	6.78E-02	6.47E-02
Space Heaters	7.48E-05	4.28E-05	2.67E-03	6.42E-02	1.21E-04	3.92E-05	4.99E-05	1.35E-05	9.27E-06	7.48E-05	6.73E-02	6.42E-02
Air Makeup Units	4.53E-04	2.59E-04	1.62E-02	3.88E-01	7.33E-04	2.37E-04	3.02E-04	8.20E-05	5.61E-05	4.53E-04	4.07E-01	3.88E-01
Eight Annealing Furnaces	4.63E-04	2.65E-04	1.65E-02	3.97E-01	7.50E-04	2.43E-04	3.09E-04	8.38E-05	5.73E-05	4.63E-04	4.16E-01	3.97E-01
Four Heat Treat Furnaces	3.98E-04	2.28E-04	1.42E-02	3.41E-01	6.45E-04	2.09E-04	2.65E-04	7.20E-05	4.93E-05	3.98E-04	3.58E-01	3.41E-01
Endothermic Generators	1.17E-05	6.70E-06	4.19E-04	1.00E-02	1.90E-05	6.14E-06	7.82E-06	2.12E-06	1.45E-06	1.17E-05	1.05E-02	1.00E-02
Total	1.56E-03	8.94E-04	5.59E-02	1.34E+00	2.53E-03	8.20E-04	1.04E-03	2.83E-04	1.94E-04	1.56E-03	1.41E+00	1.34E+00

HAP emission factors are from AP 42, Chapter 1.4, Tables 1.4-3 and 1.4-4. (7/98)

Hexane

Methodology

Potential To Emit (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lbs/MMCF) x 1 ton/2,000 lbs

4. Combustion Emissions - Greenhouse Gas Emissions

Emission Factor (lbs/MMCF)		
CO2	CH4	N2O
120,000	2.3	2.2

Emission Unit ID	Potential To Emit (tons/yr)			
	CO2	CH4	N2O	CO2e
Boiler (1994)	5,053.49	0.10	0.09	5,083.52
Boiler (EP54)	4,313.01	0.08	0.08	4,338.64
Space Heaters	4,276.94	0.082	0.078	4,302.36
Air Makeup Units	25,883.22	0.50	0.47	26,037.03
Eight Annealing Furnaces	26,465.51	0.507	0.485	26,622.78
Four Heat Treat Furnaces	22,750.24	0.436	0.417	22,885.43
Endothermic Generators	669.88	0.013	0.012	673.86
Total	89,412.29	1.71	1.64	89,269.76

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 (25) + N2O Potential Emission ton/yr x N2O GWP (298).

**Appendix A: Emission Calculations
LPG-Propane - Commercial Boilers
(Heat input capacity: > 0.3 MMBtu/hr and < 10 MMBtu/hr)**

Company Name: NUCOR Fastener
Address City IN Zip: 6730 County Road 60, St. Joe, Indiana 46785
Significant Permit Modification No: 033-34368-00038
Permit Renewal No: T033-31290-00038
Plt ID: 033-00038
Permit Reviewer: Brian Williams

1. Process Description

Emission Unit ID	Heat Input Capacity (MMBtu/hr)
Boiler	9.81
Boiler (EP54)	8.37
Total	18.18

SO2 Emission factor = 0.10 x S

S = Sulfur Content = 0.00 grains/100ft³

2. Combustion Emissions - Criteria Pollutants

Emission Factor (lbs/kgal)						
PM*	PM10*	direct PM2.5**	SO ₂	NOx**	VOC	CO
0.20	0.70	0.70	0.00	13.00	1.00	7.50
			(0.10S)		***TOC value	

*PM emission factor is filterable PM only. PM emissions are stated to be all less than 10 microns in aerodynamic equivalent diameter, footnote in Table 1.5-1, therefore PM10 is based on the filterable and condensable PM emission factors.

** No direct PM2.5 emission factor was given. Direct PM2.5 is a subset of PM10. If one assumes all PM10 to be all direct PM2.5, then a worst case assumption of direct PM2.5 can be made.

***The VOC value given is TOC. The methane emission factor is 0.2 lb/kgal.

Emission Unit ID	Potential Throughput (kgals/yr)	Potential To Emit (tons/yr)						
		PM	PM10	direct PM2.5	SO ₂	NOx	VOC	CO
Boiler	938.90	0.09	0.33	0.33	0.00	6.10	0.47	3.52
Boiler (EP54)	801.32	0.080	0.28	0.28	0.000	5.21	0.40	3.00
Total	1,740.22	0.17	0.61	0.61	0.00	11.31	0.87	6.53

Methodology

1 gallon of LPG has a heating value of 94,000 Btu (Source - AP-42 (Supplement B 10/96) page 1.5-1)

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.0915 MMBtu

Emission Factors are from AP42 (7/08), Table 1.5-1 (SCC #1-02-010-02)

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

3. Combustion Emissions - Greenhouse Gas Emissions

Emission Factor (lbs/kgal)		
CO ₂	CH ₄	N ₂ O
12,500	0.2	0.9

Emission Unit ID	Potential To Emit (tons/yr)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
Boiler	5,868.12	0.09	0.42	5,996.38
Boiler (EP54)	5,008.28	0.080	0.361	5,117.74
Total	10,876.40	0.17	0.78	11,114.12

Methodology

Emission Factors are from AP 42 (7/08),

Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

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

CO₂e (tons/yr) = CO₂ Potential Emission ton/yr x CO₂ GWP (1) + CH₄ Potential Emission ton/yr x CH₄ GWP (25) + N₂O Potential Emission ton/yr x N₂O GWP (298).

**Appendix A: Emission Calculations
Non-Combustion
Sulfuric Acid Pickling**

Company Name: NUCOR Fastener
Address City IN Zip: 6730 County Road 60, St. Joe, Indiana 46785
Significant Permit Modification No: 033-34368-00038
Permit Renewal No: T033-31290-00038
Plt ID: 033-00038
Permit Reviewer: Brian Williams

Sulfuric Acid Pickling Facility

Maximum Uncontrolled PM/PM10 (lb/hr)*	Maximum Uncontrolled PM/PM10 (ton/yr)	Capture Efficiency Fume Exhaust (%)	Control Efficiency Scrubber and Mist Eliminator (%)	Maximum Controlled Emissions (lb/hr)	Maximum Controlled Emissions (ton/yr)
1.58	6.92	70.0%	98.0%	0.50	2.17

Since the emissions are a sulfuric acid mist, the potential to emit SO₂ is conservatively equal to PM emissions.

Methodology

Maximum controlled emissions (lb/hr) = Maximum uncontrolled PM/PM10 (lb/hr) * (1-Capture Efficiency) + Maximum uncontrolled PM/PM10 (lb/hr) * Capture Efficiency * (1-Control Efficiency)

*Since there is no applicable AP-42 emissions factor available, the pound per hour emission rate is based on 360 grams per hour, as supplied by the vendor.

**Appendix A: Emission Calculations
Nut Former
Miscellaneous Operations**

Company Name: NUCOR Fastener
Address City IN Zip: 6730 County Road 60, St. Joe, Indiana 46785
Significant Permit Modification No: 033-34368-00038
Permit Renewal No: T033-31290-00038
Plt ID: 033-00038
Permit Reviewer: Brian Williams

One (1) Nut Former

Facility	Material	Potential Usage (lb/yr)	VOC Content (%)	PM Content (%)	Potential VOC Emissions Before Controls (ton/yr)	Potential PM Emissions Before Controls (lb/hr)	Potential PM Emissions Before Controls (ton/yr)	Control Efficiency (%)	Potential PM Emissions After Controls (lb/hr)	Potential PM Emissions After Controls (ton/yr)
One (1) Nut Former	Cooling Oil	84,000	0.40%	10.00%	0.17	0.96	4.20	0.00	0.96	4.20

Total Emissions (tons/yr): **VOC = 0.17** **PM = 4.20** **PM Controlled = 4.20**

**Appendix A: Emission Calculations
Tumble Blaster
Miscellaneous Operations**

**Company Name: NUCOR Fastener
Address City IN Zip: 6730 County Road 60, St. Joe, Indiana 46785
Significant Permit Modification No: 033-34368-00038
Permit Renewal No: T033-31290-00038
Plt ID: 033-00038
Permit Reviewer: Brian Williams**

Tumble Blaster

Baghouse Collection Rate* (ton/yr)	Potential Baghouse Collection Rate (ton/yr)	Control Efficiency (%)	Potential PM** Emissions (ton/yr)	Potential PM Emissions (lb/hr)	PM Emissions After Controls (ton/yr)	PM Emissions After Controls (lb/hr)
11.7	17.55	99.0%	17.73	4.05	0.18	0.04

*Based on the information supplied by the applicant, the collection rate for the tumble blast dust collector is 11.7 tons of PM per year.

**PM=PM10

Methodology

Potential Baghouse Collection Rate = Collection Rate * 1.5

The Collection Rate is multiplied by a factor of 1.5 to account for annual variability.

Emissions (ton/yr) = Potential Baghouse Collection Rate / Control Efficiency

Emissions (lb/hr) = Emissions (ton/yr) * 2000 lb/ton / 8760 hrs/yr

Emissions After Controls = Potential Emissions * (1 - Control Efficiency)

**Appendix A: Emissions Calculations
Waste Oil Combustion
Space Heater-Vaporizing Burner**

Company Name: NUCOR Fastener
Address City IN Zip: 6730 County Road 60, St. Joe, Indiana 46785
Significant Permit Modification No: 033-34368-00038
Permit Renewal No: T033-31290-00038
Plt ID: 033-00038
Permit Reviewer: Brian Williams

Heat Input Capacity MMBtu/hr	Potential Throughput kgals/year	A = Weight % Ash =	1.00
0.50	31.51	L = Weight % Lead =	1.00
		S = Weight % Sulfur =	0.30

Emission Factor in lb/kgal	Pollutant							
	PM*	PM10*	PM2.5*	SO2	NOx	TOC	CO	Pb
	2.8 (2.8A)	0.00 (ND)	0.00 (ND)	30.0 (100S)	11.0	1.0	1.7	0.41 (0.41L)
Potential Emission in tons/yr	0.04	0.04	0.04	0.47	0.17	0.02	0.03	0.01

*No information was given in AP-42 regarding whether the PM emission factor included filterable and condensable PM.
 No Emission factor listed for PM10 or PM2.5. Assumes PM10/PM2.5 = PM

Emission Factor in lb/kgal	HAPs - Metals				
	Arsenic	Chromium	Cobalt	Nickel	Phosphorus
	2.5E-03	1.9E-01	5.7E-03	5.0E-02	3.6E-02
Potential Emission in tons/yr	3.94E-05	2.99E-03	8.98E-05	7.88E-04	5.67E-04

Emission Factor in lb/kgal	HAPs - Organics				
	Naphthalene	Phenanthrene/ anthracene	Pyrene	Benz(a)anthracene/c hrysene	Benzo(a) pyrene
	1.3E-02	1.1E-02	7.1E-03	4.0E-03	4.0E-03
Potential Emission in tons/yr	2.05E-04	1.73E-04	1.12E-04	6.30E-05	6.30E-05

Total HAPs =	0.01
Single HAP =	0.006 Pb

Emission Factor in kg/mmBtu from 40 CFR 98	Greenhouse Gas		
	CO2	CH4	N2O
	74	0.003	0.0006
Potential Emission in tons/yr	357	0.0	0.0
Summed Potential Emissions in tons/yr	357		
CO2e Total in tons/yr	359		

Methodology

Emission Factor Units are lb/1000 gal
 ND = No data was available for the PM10 emission factor.
 A = weight% ash in fuel, L = weight% lead in fuel, S = weight % sulfur in fuel
 Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.139 MM Btu
 Emission Factors from AP-42, Chapter 1.11, SCC 1-05-001-14 (Supplement B 10/96)
 Emission (tons/yr) = Throughput kgals per year x Emission Factor (lb/kgal)/2,000 lb/ton
 The five metal and five organic HAPs with the highest emission factors are presented above.
 Additional emission factors for additional HAPs with smaller emission factors are available in AP-42, 5th edition (Supplement B 10/96).
 Greenhouse Gas Emission Factor Units are in kg/mmBtu.
 Emission Factors from Tables C-1 and 2 of 40 CFR Part 98 Subpart C. Waste oil is called Used oil in 40 CFR 98.
 Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
 Potential Emission (tons/yr) = Heat Input Capacity mmBtu/hr x Emission Factor (kg/mmBtu) x 2.20462 lb/kg x 8760 hrs/yr /2,000 lb/ton
 CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (25) + N2O Potential Emission ton/yr x N2O GWP (298).

**Appendix A: Emission Calculations
Bolt-Former Machines**

Company Name: NUCOR Fastener
 Address City IN Zip: 6730 County Road 60, St. Joe, Indiana 46785
 Significant Permit Modification No: 033-34368-00038
 Permit Renewal No: T033-31290-00038
 Plt ID: 033-00038
 Permit Reviewer: Brian Williams

Bolt Formers Using Smog Hog Oil Mist Collectors for Particulate Control

Machine #	Rate of Units Processed (ton/hr)	Cooling Oil Usage (gal/yr)	Density of Cooling Oil (lb/gal)	PM Emitted (lb PM/lb Cooling Oil)	Uncontrolled PTE PM ₁₀ /PM _{2.5}		Control Efficiency (%)	Controlled PTE PM ₁₀ /PM _{2.5}		Total Process Weight Rate (ton/hr)	326 IAC 6-3-2 Allowable PM Emissions (lb/hr)
					(lb/hr)	(ton/yr)		(lb/hr)	(ton/yr)		
5 (Moved from Venturi Units)	1.92	7,594.94	7.59	0.5	3.29	14.41	90.0%	0.33	1.44	1.923	6.35
6 (Moved from Venturi Units)	2.21	8,742.09	7.59	0.5	3.79	16.59	90.0%	0.38	1.66	2.214	6.98
20	0.62	2,452.53	7.59	0.5	1.06	4.65	90.0%	0.11	0.47	0.621	2.98
26	1.78	7,041.14	7.59	0.5	3.05	13.36	90.0%	0.31	1.34	1.783	6.04
27	1.73	6,843.35	7.59	0.5	2.96	12.99	90.0%	0.30	1.30	1.733	5.93
28	0.92	3,639.24	7.59	0.5	1.58	6.91	90.0%	0.16	0.69	0.922	3.88
29*	0.30	1,186.71	7.59	0.5	0.51	2.25	90.0%	0.05	0.23	0.301	N/A - exempt
31	1.75	6,922.47	7.59	0.5	3.00	13.14	90.0%	0.30	1.31	1.753	5.97
Total		44,422.47			19.24	84.29		1.92	8.43		32.16 lb/hr or 140.9 tpy

*This is an Insignificant Activity as defined in 326 IAC 2-7-1(21).

Methodology

- Cooling Oil Usage is based on a total potential usage of 37,500 gal/yr for all the bolt formers using Smog Hog oil mist collection systems for particulate control. The Permittee estimates that the rate of oil to each individual bolt former will be approximately proportionate to rate of units processed by each machine.
- Density of Cooling Oil, PM Emitted, and Control Efficiency values are based off of calculations performed in Appendix A to the TSD of Part 70 Operating Permit No. T033-20219-00038.
- The PTE of PM₁₀/PM_{2.5} is assumed to equal the PTE of PM.
- Uncontrolled PTE PM₁₀/PM_{2.5} (lb/hr) = Cooling Oil Usage (gal/yr) * Density of Cooling Oil (lb/gal) * PM Emitted (lb PM/lb Cooling Oil) * (1 yr / 8760 hr)
- Controlled PTE PM₁₀/PM_{2.5} (lb/hr) = Uncontrolled PTE PM₁₀/PM_{2.5} (lb/hr) * (1 - Control Efficiency)
- PTE (ton/yr) = PTE (lb/hr) * (8760 hr/yr) * (1 ton / 2000 lb)
- Total Process Weight Rate (ton/hr) = Rate of Units Processed (ton/hr) + [Cooling Oil Rate (gal/yr) * Density of Cooling Oil (lb/gal) * (1 yr/8760 hr) * (1 ton / 2000 lb)]
- 326 IAC 6-3-2 Allowable PM Emissions (lb/hr) = 4.10 * [Process Weight Rate (ton/hr)]^{0.87}
- Pursuant to 326 IAC 6-3-1(b)(14), manufacturing processes with potential emissions less than 0.551 pounds per hour are exempt from 326 IAC 6-3.

Bolt Formers Using the Venturi Scrubber Systems for Particulate Control

Machine #	Rate of Units Processed (tons/hr)	Cooling Oil Usage (lb/yr)	VOC Content (lb VOC/lb Cooling Oil)	PM Emitted (lb PM/lb Cooling Oil)	PTE VOC (ton/yr)	Uncontrolled PTE PM ₁₀ /PM _{2.5}		Control Efficiency (%)	Controlled PTE PM ₁₀ /PM _{2.5}		Total Process Weight Rate (ton/hr)	326 IAC 6-3-2 Allowable PM Emissions (lb/hr)
						(lb/hr)	(ton/yr)		(lb/hr)	(ton/yr)		
1	6.33	18174	0.5	0.1	4.543	0.207	0.909	98.0%	0.00415	0.0182	6.33	N/A - exempt
2*	1.49	4278	0.5	0.1	1.069	0.049	0.214	98.0%	0.00098	0.0043	1.49	N/A - exempt
3*	1.53	4393	0.5	0.1	1.098	0.050	0.220	98.0%	0.00100	0.0044	1.53	N/A - exempt
4*	3.42	9819	0.5	0.1	2.455	0.112	0.491	98.0%	0.00224	0.0098	3.42	N/A - exempt
7	4.38	12575	0.5	0.1	3.144	0.144	0.629	98.0%	0.00287	0.0126	4.38	N/A - exempt
8*	1.85	5311	0.5	0.1	1.328	0.061	0.266	98.0%	0.00121	0.0053	1.85	N/A - exempt
9*	1.19	3417	0.5	0.1	0.854	0.039	0.171	98.0%	0.00078	0.0034	1.19	N/A - exempt
10 (new)	4.38	12575	0.5	0.1	3.144	0.144	0.629	98.0%	0.00287	0.0126	4.38	N/A - exempt
11	4.02	11542	0.5	0.1	2.885	0.132	0.577	98.0%	0.00264	0.0115	4.02	N/A - exempt
12*	1.52	4364	0.5	0.1	1.091	0.050	0.218	98.0%	0.00100	0.0044	1.52	N/A - exempt
13*	0.59	1694	0.5	0.1	0.423	0.019	0.085	98.0%	0.00039	0.0017	0.59	N/A - exempt
14*	0.51	1464	0.5	0.1	0.366	0.017	0.073	98.0%	0.00033	0.0015	0.51	N/A - exempt
15*	0.77	2211	0.5	0.1	0.553	0.025	0.111	98.0%	0.00050	0.0022	0.77	N/A - exempt
16*	0.84	2412	0.5	0.1	0.603	0.028	0.121	98.0%	0.00055	0.0024	0.84	N/A - exempt
17*	0.54	1550	0.5	0.1	0.388	0.018	0.078	98.0%	0.00035	0.0016	0.54	N/A - exempt
19*	0.30	861	0.5	0.1	0.215	0.010	0.043	98.0%	0.00020	0.0009	0.30	N/A - exempt
21*	0.22	632	0.5	0.1	0.158	0.007	0.032	98.0%	0.00014	0.0006	0.22	N/A - exempt
22*	0.35	1005	0.5	0.1	0.251	0.011	0.050	98.0%	0.00023	0.0010	0.35	N/A - exempt
23*	0.13	373	0.5	0.1	0.093	0.004	0.019	98.0%	0.00009	0.0004	0.13	N/A - exempt
24*	2.44	7005	0.5	0.1	1.751	0.080	0.350	98.0%	0.00160	0.0070	2.44	N/A - exempt
25	4.64	13322	0.5	0.1	3.330	0.152	0.666	98.0%	0.00304	0.0133	4.64	N/A - exempt
30*	1.75	5024	0.5	0.1	1.256	0.057	0.251	98.0%	0.00115	0.0050	1.75	N/A - exempt
		124000			31.00	1.42	6.20		0.03	0.12		

*Insignificant Activity as defined in 326 IAC 2-7-1(21).

Methodology

- Cooling Oil Usage is based on a total potential usage of 124,000 lb/yr for all the bolt formers using the Venturi scrubbers for particulate control. This usage represents an increase in total potential usage from 78,770 pounds per year. The Permittee estimates that the rate of oil to each individual bolt former will be approximately proportional to the rate of units processed by each machine.
- VOC Content, PM Emitted, and Control Efficiency values are based off of calculations performed in Appendix A to the TSD of Part 70 Operating Permit No. T033-20219-00038.
- PTE VOC (ton/yr) = Cooling Oil Usage (lb/yr) * VOC Content (lb VOC/lb Cooling Oil) * (1 ton / 2000 lb)
- The PTE of PM₁₀/PM_{2.5} is assumed to equal the PTE of PM.
- Uncontrolled PTE PM₁₀/PM_{2.5} (lb/hr) = Cooling Oil Usage (lb/yr) * PM Emitted (lb PM/lb Cooling Oil) * (1 yr / 8760 hr)
- Controlled PTE PM₁₀/PM_{2.5} (lb/hr) = Uncontrolled PTE PM₁₀/PM_{2.5} (lb/hr) * (1 - Control Efficiency)
- PTE (ton/yr) = PTE (lb/hr) * (8760 hr/yr) * (1 ton / 2000 lb)
- Total Process Weight Rate (ton/hr) = Rate of Units Processed (ton/hr) + [Cooling Oil Rate (lb/yr) * (1 yr/8760 hr) * (1 ton / 2000 lb)]
- Pursuant to 326 IAC 6-3-1(b)(14), manufacturing processes with potential emissions less than 0.551 pounds per hour are exempt from 326 IAC 6-3.

**Appendix A: Emission Calculations
Cooling Towers**

**Company Name: NUCOR Fastener
Address City IN Zip: 6730 County Road 60, St. Joe, Indiana 46785
Significant Permit Modification No: 033-34368-00038
Permit Renewal No: T033-31290-00038
Plt ID: 033-00038
Permit Reviewer: Brian Williams**

One (1) Cooling Tower at the concrete pond (1,950 gpm)

Estimated max total dissolved solids concentration of 1,250 ppm

Drift loss rate of 0.005%

$$\text{PM} = 1,950 \text{ (gal/min)} * (1,250/1,000,000) * (8.345 \text{ lb/gal}) * 0.00005 * 60 = 0.06 \text{ lb/hr}$$

$$\text{PM} = 0.061 * 8760 / 2000 = 0.27 \text{ tpy}$$

Assume 16% of PM is PM10. Assume PM2.5 = PM10

$$\text{PM10/PM2.5} = 0.16 * 0.2673 \text{ tpy} = 0.04 \text{ tpy}$$

Two (2) Cooling Towers at the Holcroft belt heat reat furnace (each 975 gpm)

Estimated max total dissolved solids concentration of 1,250 ppm

Drift loss rate of 0.005%

$$\text{PM} = 975 \text{ (gal/min)} * (1,250/1,000,000) * (8.345 \text{ lb/gal}) * 0.00005 * 60 = 0.031 \text{ lb/hr}$$

$$\text{PM} = 0.031 * 8760 / 2000 = 0.13 \text{ tpy}$$

$$\text{PM for 2 cooling towers} = 0.27 \text{ tpy}$$

Assume 16% of PM is PM10. Assume PM2.5 = PM10

$$\text{PM10/PM2.5} = 0.16 * 0.2673 \text{ tpy} = 0.04 \text{ tpy}$$

**Appendix A: Emission Calculations
Reciprocating Internal Combustion Engines - Natural Gas
4-Stroke Rich-Burn (4SRB) Engines**

Company Name: NUCOR Fastener
Address City IN Zip: 6730 County Road 60, St. Joe, Indiana 46785
Significant Permit Modification No: 033-34368-00038
Permit Renewal No: T033-31290-00038
Pit ID: 033-00038
Permit Reviewer: Brian Williams

Maximum Heat Input Capacity (MMBtu/hr)	1.95
Maximum Hours Operated per Year (hr/yr)	500
Potential Fuel Usage (MMBtu/yr)	975
High Heat Value (MMBtu/MMscf)	1020
Potential Fuel Usage (MMcf/yr)	0.96

Criteria Pollutants	Pollutant						
	PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO
Emission Factor (lb/MMBtu)	9.50E-03	1.94E-02	1.94E-02	5.88E-04	2.21E+00	2.96E-02	3.72E+00
Potential Emissions (tons/yr)	0.0046	0.01	0.01	0.0003	1.08	0.01	1.81

*PM emission factor is for filterable PM-10. PM10 emission factor is filterable PM10 + condensable PM.
PM2.5 emission factor is filterable PM2.5 + condensable PM.

Hazardous Air Pollutants (HAPs)

Pollutant	Emission Factor (lb/MMBtu)	Potential Emissions (tons/yr)
Acetaldehyde	2.79E-03	0.001
Acrolein	2.63E-03	0.001
Benzene	1.58E-03	0.001
1,3-Butadiene	6.63E-04	0.000
Formaldehyde	2.05E-02	0.010
Methanol	3.06E-03	0.001
Total PAH**	1.41E-04	0.000
Toluene	5.58E-04	0.000
Xylene	1.95E-04	0.000
Total		0.02

HAP pollutants consist of the nine highest HAPs included in AP-42 Table 3.2-3.

**PAH = Polycyclic Aromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)

Methodology

Emission Factors are from AP-42 (Supplement F, July 2000), Table 3.2-3
 Potential Fuel Usage (MMBtu/yr) = [Maximum Heat Input Capacity (MMBtu/hr)] * [Maximum Hours Operating per Year (hr/yr)]
 Potential Emissions (tons/yr) = [Potential Fuel Usage (MMBtu/yr)] * [Emission Factor (lb/MMBtu)] / [2000 lb/ton]

Greenhouse Gases (GHGs)	Greenhouse Gas (GHG)		
	CO2	CH4	N2O
Emission Factor in lb/MMBtu*	110	1.25	
Emission Factor in lb/MMcf**			2.2
Potential Emission in tons/yr	53.63	0.61	0.00
Summed Potential Emissions in tons/yr	54.24		
CO2e Total in tons/yr	69.17		

Methodology

*The CO2 and CH4 emission factors are from Emission Factors are from AP-42 (Supplement F, July 2000), Table 3.2-2
 **The N2O emission factor is from AP 42, Table 1.4-2. The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
 Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
 For CO2 and CH4: Emission (tons/yr) = [Potential Fuel Usage (MMBtu/yr)] * [Emission Factor (lb/MMBtu)] / [2,000 lb/ton]
 For N2O: Emission (tons/yr) = [Potential Fuel Usage (MMCF/yr)] * [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 (25) + N2O Potential Emission ton/yr x N2O GWP (298).

Abbreviations

PM = Particulate Matter	NOx = Nitrous Oxides	CO2 = Carbon Dioxide
PM10 = Particulate Matter (<10 um)	VOC = Volatile Organic Compounds	CH4 = Methane
SO2 = Sulfur Dioxide	CO = Carbon Monoxide	N2O = Nitrous Oxide
		CO2e = CO2 equivalent emissions

**Appendix A: Emission Calculations
Summary of Emissions**

Company Name: NUCOR Vulcraft Group - St. Joe Division
Address City IN Zip: 6610 County Road 60, St. Joe, Indiana 46785
Significant Permit Modification No: 033-34368-00038
Permit Renewal No: T033-32592-00027
Plt ID: 033-00027
Permit Reviewer: Brian Williams

Unlimited Potential to Emit (tons/year)											
Process/Emission Unit	PM	PM10	PM2.5	SO2	NOx	VOC	CO	GHGs as CO2e	Total HAPs	Highest Single HAP	
Dip Coating, Flow Coating, or Roll Coating Application	0	0	0	0	0	788.03	0	0	0	0	
Spray Coating Unit 1 and Spray Coating Unit 2	762.74	762.74	762.74	0	0	231.29	0	0	0	0	
Aerosol Touch-Up	1.26	1.26	1.26	0	0	1.16	0	0	0	0	
Welding	11.67	11.67	11.67	0	0	0	0	0	7.14	7.14	Manganese
Natural Gas Combustion	0.20	0.80	0.80	0.06	10.48	0.58	8.80	12,648	0.20	0.19	Hexane
Total	775.87	776.47	776.47	0.06	10.48	1,021.06	8.80	12,648	7.34	7.14	Manganese

Limited Potential to Emit (tons/year)												
Process/Emission Unit	PM*	PM10*	PM2.5*	SO2	NOx	VOC**	CO	GHGs as CO2e	Total HAPs	Highest Single HAP		
Dip Coating, Flow Coating, or Roll Coating Application	0	0	0	0	0	210.00	0	0	0	0		
Spray Coating Unit 1 and Spray Coating Unit 2	40.00	40.00	40.00	0	0		0	0	0	0	0	
Aerosol Touch-Up	1.26	1.26	1.26	0	0		0	0	0	0	0	
Welding	11.67	11.67	11.67	0	0	0	0	0	7.14	7.14	Manganese	
Natural Gas Combustion	0.20	0.80	0.80	0.06	10.48	0.58	8.80	12,648	0.20	0.19		
Total	53.13	53.73	53.73	0.06	10.48	210.58	8.80	12,648	7.34	7.14	Manganese	

* The PM, PM10 and PM2.5 potential to emit for the spray coating units is based on PSD minor limits.

* The VOC potential to emit for the dip, flow, and roll coating application process, spray coating units, and aerosol touch-up is based on PSD minor limits.

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

Company Name: NUCOR Vulcraft Group - St. Joe Division
Address City IN Zip: 6610 County Road 60, St. Joe, Indiana 46785
Significant Permit Modification No: 033-34368-00038
Permit Renewal No: T033-32592-00027
Plt ID: 033-00027
Permit Reviewer: Brian Williams

Dip coating, Flow coating, or Roll coating application

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
Super Long Span Line	9.9	63.75%	52.20%	11.60%	62.30%	21.88%	1.77	10	3.05	1.15	20.33	487.84	89.03	0.00	5.25	100%
Long Span Line	9.9	63.75%	52.20%	11.60%	62.30%	21.88%	2.09	10	3.05	1.15	24.00	576.04	105.13	0.00	5.25	100%
Middle Span Line	11.1	1.80%	0.00%	1.80%	0.00%	38.46%	2.1	10	0.20	0.20	4.20	100.70	18.38	0.00	0.52	100%
Short Span Line	9.9	63.75%	52.20%	11.60%	62.30%	21.88%	3.26	9	3.05	1.15	33.69	808.66	147.58	0.00	5.25	100%
Combo Line	9.9	63.75%	52.20%	11.60%	62.30%	21.88%	3.23	12	3.05	1.15	44.51	1068.29	194.96	0.00	5.25	100%
Bridging Line	9.9	63.75%	52.20%	11.60%	62.30%	21.88%	2.1	10	3.05	1.15	24.12	578.79	105.63	0.00	5.25	100%
Deck Line	9.1	54.44%	51.30%	3.10%	56.00%	39.55%	1.3	40	0.64	0.28	14.67	352.06	64.25	0.00	0.71	100%
	10.1	46.61%	44.10%	2.50%	53.30%	41.19%	1.3	40	0.54	0.25	13.13	315.12	57.51	0.00	0.61	100%
Deck Line - Edge Coater	9.2	67.02%	55.50%	11.50%	61.50%	23.61%	0.03	40	2.75	1.06	1.27	30.47	5.56	0.00	4.48	100%
788.03													0.00			

Spray Coating Unit 1 and Spray Coating Unit 2, each

Line	Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	Transfer Efficiency	
Super Long Span Line	Armitage WD-27185VW	10.8	48.00%	43.2%	4.8%	0.0%	0.00%	1.77000	10,000	0.52	0.52	9.19	220.68	40.27	174.15	60%	
Long Span Line	Armitage WD-27185VW	10.8	48.00%	43.2%	4.8%	0.0%	0.00%	2.09000	10,000	0.52	0.52	10.86	260.57	47.55	205.64	60%	
Combo Line	Armitage WD-27185VW	10.8	48.00%	43.2%	4.8%	0.0%	0.00%	3.23000	12,000	0.52	0.52	20.14	483.24	88.19	381.37	60%	
Middle Span Line	Century 220-D-407	11.1	41.55%	34.3%	7.3%	0.0%	0.00%	3.26000	10,000	0.81	0.81	26.40	633.68	115.65	370.89	60%	
Short Span Line	Century 220-D-509A	10.9	52.13%	47.3%	4.8%	0.0%	0.00%	3.26000	9,000	0.52	0.52	15.38	369.18	67.38	268.22	60%	
Uncontrolled Potential Emissions for One Spray Coating Unit														115.65	381.37		
Uncontrolled Potential Emissions for Two Spray Coating Units														231.29	762.74		

Aerosol Touch-Up

Line	Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Usage (gal/yr)	Pounds VOC per gallon of coating less water	Potential VOC tons per year	Particulate Potential (ton/yr)
Bridging Line	Marcus SP-12598-7	9.8	50.46%	37.4%	13.0%	0.0%	52,000	1.276	0.13	0.13
Deck Line	Century 220-W-203C	9.5	54.27%	38.2%	16.1%	0.0%	52,000	1.527	0.13	0.11
	Century 220-W-167C	11.1	43.86%	30.4%	13.5%	0.0%	52,000	1.490	0.13	0.16
Deck Line - Edge Coater	Century 220-C-403	9.0	46.64%	25.6%	21.1%	0.0%	52,000	1.890	0.11	0.12
Super Long Span Line	Armitage WD-27185VW	10.8	48.00%	43.2%	4.8%	0.0%	52,000	0.519	0.13	0.15
Long Span	Armitage WD-27185VW	10.8	48.00%	43.2%	4.8%	0.0%	52,000	0.519	0.13	0.15
Combo Span Line	Armitage WD-27185VW	10.8	48.00%	43.2%	4.8%	0.0%	52,000	0.534	0.13	0.15
Middle Span Line	Century 220-D-406	11.1	41.55%	34.3%	7.3%	0.0%	52,000	0.757	0.12	0.17
Short Span Line	Century 220-D-509A	10.4	52.13%	47.3%	4.8%	0.0%	52,000	0.500	0.14	0.13
1.16									1.26	

METHODOLOGY

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

Appendix A: Emissions Calculations
Welding

Company Name: NUCOR Vulcraft Group - St. Joe Division
Address City IN Zip: 6610 County Road 60, St. Joe, Indiana 46785
Significant Permit Modification No: 033-34368-00038
Permit Renewal No: T033-32592-00027
Plt ID: 033-00027
Permit Reviewer: Brian Williams

PROCESS	Number of Stations	Max. electrode consumption per station (lbs/hr)	EMISSION FACTORS* (lb pollutant/lb electrode)				EMISSIONS (lbs/hr)				HAPS (lbs/hr)
			PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
WELDING											
GMAW	1	512.5	0.0052	0.0032	1.00E-06	1.00E-06	2.67	1.63	5.13E-04	5.13E-04	1.63
EMISSION TOTALS											
Potential Emissions lbs/hr							2.67	1.63	0.001	0.001	1.63
Potential Emissions lbs/day							63.96	39.11	0.012	0.012	39.14
Potential Emissions tons/year							11.67	7.14	0.002	0.002	7.14

Methodology:

*Emission Factors are default values for carbon steel unless a specific electrode type is noted in the Process column.

Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr/station)(emission factor, lb. pollutant/lb. of electrode used)

Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day

Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/year x 1 ton/2,000 lbs.

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

Company Name: NUCOR Vulcraft Group - St. Joe Division
Address City IN Zip: 6610 County Road 60, St. Joe, Indiana 46785
Significant Permit Modification No: 033-34368-00038
Permit Renewal No: T033-32592-00027
Plt ID: 033-00027
Permit Reviewer: Brian Williams

1. Process Description

Emission Unit ID	Heat Input Capacity (MMBtu/hr)
Space Heaters	17.60
Air Makeup Units	5.80
Combo Line Oven	1.00
Total	24.40

2. Combustion Emissions - Criteria Pollutants

NOx Burner Type	Fuel Heat Value (MMBtu/MMCF)	Emission Factor (lbs/MMCF)						
		PM*	PM10*	direct PM2.5	SO ₂	NOx**	VOC	CO
Ordinary Burners	1,020	1.9	7.6	7.6	0.6	100	5.5	84.0

* PM emission factor is for filterable PM only. PM10 emission factor is for condensable PM10 and filterable PM combined.

** Emission factors for NOx: Uncontrolled = 100 lbs/MMCF, Low NOx Burners = 50 lbs/MMCF

Emission factors are from AP 42, Chapter 1.4, Tables 1.4-1, and 1.4-2, SCC 1-01-006-02, 1-02-006-02, 1-03-006-02, 1-03-006-03. (7/98)

Emission Unit ID	Potential Throughput (MMCF/yr)	Potential To Emit (tons/yr)						
		PM	PM10	direct PM2.5	SO ₂	NOx	VOC	CO
Space Heaters	151.15	0.14	0.57	0.57	0.05	7.56	0.42	6.35
Air Makeup Units	49.81	0.05	0.19	0.19	0.015	2.49	0.14	2.09
Combo Line Oven	8.59	0.008	0.03	0.03	0.003	0.43	0.02	0.36
Total	209.55	0.20	0.80	0.80	0.06	10.48	0.58	8.80

Methodology

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

Potential To Emit (tons/year) = Throughput (MMCF/yr) x Emission Factor (lbs/MMCF) x 1 ton/2,000 lbs

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

3. Combustion Emissions - HAP Pollutants

Emission Factor (lbs/MMCF)									
Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	Cadmium	Chromium	Manganese	Mercury	Nickel
2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	1.1E-03	1.4E-03	3.8E-04	2.6E-04	2.1E-03

Potential To Emit (tons/yr)												
Emission Unit ID	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	Cadmium	Chromium	Manganese	Mercury	Nickel	Total HAPs	Single HAP
Space Heaters	1.59E-04	9.07E-05	5.67E-03	1.36E-01	2.57E-04	8.31E-05	1.06E-04	2.87E-05	1.96E-05	1.59E-04	1.43E-01	1.36E-01
Air Makeup Units	5.23E-05	2.99E-05	1.87E-03	4.48E-02	8.47E-05	2.74E-05	3.49E-05	9.46E-06	6.48E-06	5.23E-05	4.70E-02	4.48E-02
Combo Line Oven	9.02E-06	5.15E-06	3.22E-04	7.73E-03	1.46E-05	4.72E-06	6.01E-06	1.63E-06	1.12E-06	9.02E-06	8.10E-03	7.73E-03
Total	2.20E-04	1.26E-04	7.86E-03	1.89E-01	3.56E-04	1.15E-04	1.47E-04	3.98E-05	2.72E-05	2.20E-04	1.98E-01	1.89E-01

HAP emission factors are from AP 42, Chapter 1.4, Tables 1.4-3 and 1.4-4. (7/98)

Hexane

Methodology

Potential To Emit (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lbs/MMCF) x 1 ton/2,000 lbs

4. Combustion Emissions - Greenhouse Gas Emissions

Emission Factor (lbs/MMCF)		
CO2	CH4	N2O
120,000	2.3	2.2

Potential To Emit (tons/yr)				
Emission Unit ID	CO2	CH4	N2O	CO2e
Space Heaters	9,069.18	0.17	0.17	9,123.07
Air Makeup Units	2,988.71	0.06	0.05	3,006.47
Combo Line Oven	515.29	0.010	0.009	518.36
Total	12,573.18	0.24	0.23	12,647.89

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 (25) + N2O Potential Emission ton/yr x N2O GWP (298).

**Indiana Department of Environmental Management
Office of Air Quality**

**Technical Support Document (TSD) for a Part 70 Significant Permit
Modification**

Source Description and Location

Source Name:	Nucor Fastener
Source Location:	6730 County Road 60, St. Joe, Indiana 46785
County:	DeKalb
SIC Code:	3452 (Bolts, Nuts, Screws, Rivets, and Washers)
Operation Permit No.:	T 033-31290-00038
Operation Permit Issuance Date:	August 10, 2012
Significant Permit Modification No.:	033-34368-00038
Permit Reviewer:	Brian Williams

Source Definition

This source consists of two (2) plants:

- (a) Nucor Fastener (Plant ID 033-00038) is located at 6730 County Road 60, St. Joe, Indiana 46785; and
- (b) NUCOR Vulcraft Group – St. Joe Division (Plant ID 033-00027) is located at 6610 County Road 60, St. Joe, Indiana 46785.

IDEM has determined that Nucor Fastener and NUCOR Vulcraft Group – St. Joe Division are under the common control of Nucor Corporation. These two plants are considered one source because they are located on adjacent properties, are under common ownership, and belong to the same industrial grouping. Therefore, the term “source” in the Part 70 documents refers to both Nucor Fastener and NUCOR Vulcraft Group – St. Joe Division as one major source.

This conclusion was initially determined under Part 70 Operating Permit (T033-20219-00038) on October 12, 2007.

Separate Part 70 permits have been issued to Nucor Fastener and NUCOR Vulcraft Group – St. Joe Division solely for administrative purposes.

Existing Approvals

Nucor Fastener was issued Part 70 Operating Renewal Administrative Permit No. 033-31290-00038 on August 10, 2012. The source has since received the following approvals:

- (a) Minor Permit Modification No. 033-32278-00038, issued on November 28, 2012.

County Attainment Status

The source is located in DeKalb County.

Pollutant	Designation
SO ₂	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O ₃	Unclassifiable or attainment effective July 20, 2012, for the 2008 8-hour ozone standard. ¹
PM _{2.5}	Unclassifiable or attainment effective April 5, 2005, for the annual PM _{2.5} standard.
PM _{2.5}	Unclassifiable or attainment effective December 13, 2009, for the 24-hour PM _{2.5} standard.
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. DeKalb 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}**
 DeKalb 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. On May 4, 2011, the air pollution control board issued an emergency rule establishing the direct PM_{2.5} significant level at ten (10) tons per year. This rule became effective June 28, 2011. Therefore, direct PM_{2.5}, SO₂, and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (c) **Other Criteria Pollutants**
 DeKalb County has been classified as attainment or unclassifiable in Indiana for all other criteria 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 (Nucor Fastener and Nucor Vulcraft Group – St. Joe Division), prior to the proposed modification at Nucor Fastener, after consideration of all enforceable limits established in the effective permits:

Pollutant	Emissions (ton/yr)
PM	244.8
PM ₁₀	249.5
PM _{2.5}	249.5
SO ₂	6.87
NO _x	76.83
VOC	248.7
CO	62.58
GHGs as CO ₂ e	94,563
HAPs	
Worst Single HAP	7.14
Total	11.05

- (a) This existing source is not a major stationary source, under PSD (326 IAC 2-2), because no regulated pollutant, excluding GHGs, is emitted at a rate of two hundred fifty (250) tons per year or more, emissions of GHGs are less than one hundred thousand (100,000) tons of CO₂ equivalent emissions (CO₂e) 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) 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).
- (c) These emissions are based upon TSD to Part 70 Operating Permit Renewal No. 033-32592-00027, issued on May 15, 2013 for Nucor Vulcraft Group – St. Joe Division.

Description of Proposed Modification

The Office of Air Quality (OAQ) has reviewed a modification application, submitted by Nucor Fastener on March 31, 2014, requesting the following:

- (a) To modify the existing sulfuric acid pickling facility tanks.

The modification to the sulfuric acid pickling facility tanks will increase the maximum capacity from 34.2 tons of steel per hour to 64.8 tons of steel per hour.
- (b) To replace the two (2) existing cooling towers at the concrete pond with a single cooling tower.

The maximum water circulation rate of 1,950 gallons per minute will not increase due to this change.
- (c) To modify the permit to include new GHG emission limits in order to render the requirements of PSD not applicable to this combined source.

Based on IDEM's review of the limited potential to emit calculations for this combined source, IDEM has determined that the incorrect values were used for Nucor Fastener in the most recent permit action for this combined source (Part 70 Operating Permit Renewal No. 033-32592-00027, issued on May 15, 2013). As a result, the combined limited potential to emit PM, PM₁₀, PM_{2.5}, and VOC is actually greater than 250 tons per

year. In addition, the combined limited potential to emit GHGs is greater than 100,000 tons per year (see Appendix A for detailed calculations). This combined source is currently listed as being a minor source under PSD and intended to be a minor source under PSD. To address this:

- (1) Nucor Fastener has requested new GHG emission limits for the boilers, space heaters, and air makeup units at their facility. Compliance with these new limits at Nucor Fastener combined with the unlimited potential to emit GHGs from all other emission units at this combined source will render the requirements of PSD not applicable to this combined source.
- (2) The existing PM, PM10, and PM2.5 emission limits for the existing spray coating units at Nucor Vulcraft Group - St. Joe Division will be revised in order to render the requirements of PSD not applicable to this combined source.
- (3) Nucor Vulcraft Group - St. Joe Division has notified IDEM that the site remediation activities at Nucor Vulcraft Group - St. Joe Division have concluded and no longer generate VOC emissions. The site remediation activities had a potential to emit ten (10) tons of VOC per year. Therefore, by removing the site remediation the limited potential to emit VOC for the combined source is now less than 250 tons per year.

Nucor Vulcraft Group - St. Joe Division has submitted a permit modification application (No. 033-34369-00027) on March 31, 2014, to address the PM, PM10, PM2.5 and VOC emissions by revising the emission limits in their permit in order to render the requirements of PSD not applicable to this combined source.

The following is a list of the proposed and modified emission units and pollution control devices:

- (a) One (1) sulfuric acid pickling facility, constructed in 1999 and approved in 2014 for modification, exhausting to stack EP63, with an acid recovery system, with a maximum capacity of 64.8 tons of steel per hour;
- (b) One (1) cooling tower at the concrete pond, approved in 2014 for construction, with a maximum water circulation rate of 1,950 gallons per minute.

The following is a list of the emission units that will be removed:

- (m) Two cooling towers (975 gpm each) at the concrete pond

Enforcement Issues

There are no pending enforcement actions related to this modification.

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 (New Cooling Tower)	
Pollutant	Potential To Emit (ton/yr)
PM	0.04
PM ₁₀	0.04
PM _{2.5}	0.04
SO ₂	0
NO _x	0
VOC	0
CO	0
Single HAPs	0
Total HAPs	0

Appendix A of this TSD reflects the unrestricted potential emissions of the modification.

PTE Change of the Modified Processes (Sulfuric Acid Pickling Facility and Cooling Towers)			
Pollutant	PTE Before Modification (ton/yr)	PTE After Modification (ton/yr)	Increase from Modification (ton/yr)
PM	3.50	6.92	3.42
PM ₁₀	3.50	6.92	3.42
PM _{2.5}	3.50	6.92	3.42
SO ₂	3.46	6.92	3.46
NO _x	0	0	0
VOC	0	0	0
CO	0	0	0
HAPs	0	0	0

Total PTE Increase due to the Modification			
Pollutant	PTE New Emission Units (ton/yr)	Net Increase to PTE of Modified Emission Units (ton/yr)	Total PTE for New and Modified Units (ton/yr)
PM	0.04	3.42	3.46
PM ₁₀	0.04	3.42	3.46
PM _{2.5}	0.04	3.42	3.46
SO ₂	0	3.46	3.46
NO _x	0	0	0
VOC	0	0	0
CO	0	0	0
HAPs	0	0	0

Appendix A of this TSD reflects the unrestricted potential emissions of the modification.

- (1) Approval to construct:
 The new and modified emission units are exempt from the requirement to obtain prior approval to construct under 326 IAC 2-7-10.5, since the unlimited potential to emit of the new and modified emission units is less than the thresholds specified in 326 IAC 2-7-10.5.
- (2) Approval to operate:
 This 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 the modification involves significant changes in permit terms or conditions (such as a case by case determination of emission limitations, the addition of applicable NSPS and NESHAP requirements, and significant changes in existing monitoring Part 70 permit terms and conditions).

Permit Level Determination – PSD

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

Process/ Emission Unit	Potential to Emit (tons/year)									
	PM	PM10 ¹	PM2.5 ¹	SO ₂	NO _x	VOC	CO	GHGs as CO _{2e}	Total HAPs	Worst Single HAP
Nucor Fastener (033-00038)										
Boiler (1994)	0.09	0.33	0.33	0.03	6.10	0.47	3.54	24,761	0.08	0.08 Hexane
Boiler, EP54 (2000)	0.08	0.28	0.28	0.02	5.21	0.40	3.02		0.07	0.06 Hexane
Space Heaters	0.07	0.27	0.27	0.02	3.56	0.20	2.99		0.07	0.06 Hexane
Air Makeup Units	0.41	1.64	1.64	0.13	21.57	1.19	18.12		0.41	0.39 Hexane
Eight (8) Annealing Furnaces	0.42	1.68	1.68	0.13	22.05	1.21	18.53	26,623	0.42	0.40 Hexane
Four (4) Heat Treat Furnaces	0.36	1.44	1.44	0.11	18.96	1.04	15.93	22,885	0.36	0.34 Hexane
Sulfuric Acid Pickling Facility (1999 and 2014)	6.92	6.92	6.92	6.92	0.00	0.00	0.00	0.00	0.00	0.00
One (1) Nut Former	4.20	4.20	4.20	0.00	0.00	0.17	0.00	0.00	0.00	0.00
Tumble Blaster	17.73	17.73	17.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bolt Formers Using Smog Hog Oil Mist	84.29	84.29	84.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bolt Formers Using Venturi Scrubbers	6.20	6.20	6.20	0.00	0.00	31.00	0.00	0.00	0.00	0.00
Oil and Phosphate Line	0.11	0.11	0.11	0.11	0.00	0.19	0.00	0.00	0.00	0.00
Parts Waxing Line	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00
Endothermic Generators	0.01	0.04	0.04	0.00	0.56	0.03	0.47	674	0.01	0.01 Hexane
Waste Oil Heaters	0.04	0.04	0.04	0.47	0.17	0.02	0.03	359	0.01	0.01 Lead
Cooling Towers	0.53	0.09	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas Emergency Generator	0.00	0.01	0.01	0.00	1.08	0.01	1.81	69	0.02	0.01 Form- aldehyde
Nucor Vulcraft - St. Joe Division (033-00027) ²	53.13	53.73	53.73	0.06	10.48	210.58	8.80	12,648	7.34	7.14 Man- ganese
Total PTE of Entire Source	174.61	179.00	179.00	8.01	89.74	246.60	73.23	88,019	8.77	7.14 Man- ganese
Title V Major Source Thresholds	NA	100	100	100	100	100	100	100,000	25	10
PSD Major Source Thresholds	250	250	250	250	250	250	250	100,000	NA	NA

negl. = negligible

¹ Under the Part 70 Permit program (40 CFR 70), PM10 and PM2.5, not particulate matter (PM), are each considered as a "regulated air pollutant".

² Limited PTE based on proposed emission limits in pending Significant Permit Modification No. 033-34369-00027.

This modification to an existing PSD minor stationary source will not change the PSD minor status, because the potential to emit of all attainment regulated pollutants from the entire source will continue to be less than the PSD major source threshold levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

In order to continue to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable, the source shall comply with the following:

- (a) The total natural gas usage for the two (2) boilers (1994 and EP54), space heaters, and air make-up units at Nucor Fastener shall not exceed 391.83 million cubic feet (MMCF) per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) CO₂ emissions from natural gas combustion shall not exceed 120,000 pounds per million cubic feet (lb/MMCF).
- (c) CH₄ emissions from natural gas combustion shall not exceed 2.3 pounds per million cubic feet (lb/MMCF).
- (d) N₂O emissions from natural gas combustion shall not exceed 2.2 pounds per million cubic feet (lb/MMCF).
- (e) The total propane usage for the two (2) boilers (1994 and EP54) shall not exceed 174.02 kilogallons (kgal) per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (f) CO₂ emissions from propane combustion shall not exceed 12,500 pounds per kilogallon (lb/kgal).
- (g) CH₄ emissions from propane combustion shall not exceed 0.2 pounds per kilogallon (lb/kgal).
- (h) N₂O emissions from propane combustion shall not exceed 0.9 pounds per kilogallon (lb/kgal).

Compliance with these limits, combined with the potential to emit greenhouse gases from all other emission units at this combined source, shall limit the source-wide total potential to emit greenhouse gases (GHGs) to less than 100,000 tons of CO₂ equivalent emissions (CO₂e) per 12 consecutive month period and shall render the requirements of 326 IAC 2-2 (PSD) not applicable.

Note: These are new emission limits. This is a Title 1 change.

Federal Rule Applicability Determination

- (a) NSPS:

Even though the natural gas-fired emergency generator is not being modified in this modification, it is being evaluated for NSPS.

The natural gas-fired emergency generator is subject to the requirements of the New Source Performance Standard for Stationary Spark Ignition Internal Combustion Engines, 40 CFR Part 60, Subpart JJJJ (326 IAC 12), because it meets the definition of a stationary spark ignition internal combustion engine as defined in 40 CFR Part 60.4248, was constructed after June 12, 2006, and the engine was manufactured on or after January 1, 2009 and has a maximum engine power greater than 19 Kilowatts (25 Horsepower). This generator was ordered on August 3, 2011, manufactured in September of 2011, and has a maximum engine power of 150 Kilowatts.

The natural gas-fired emergency generator is subject to the following applicable portions of the NSPS:

- (1) 40 CFR 60.4230(a)(4)(iv)
- (2) 40 CFR 60.4233(c)
- (3) 40 CFR 60.4234
- (4) 40 CFR 60.4236
- (5) 40 CFR 60.4243
- (6) 40 CFR 60.4245
- (7) 40 CFR 60.4246
- (8) 40 CFR 60.4248
- (9) Table 3

This is a new requirement in the permit. This is a Title 1 change.

The requirements of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated as 326 IAC 12-1, apply to the source except as otherwise specified in 40 CFR Part 60, Subpart JJJJ.

(b) NESHAP:

Even though the natural gas-fired emergency generator is not being modified in this modification, it is being evaluated for NESHAP.

The natural gas-fired emergency generator is subject the requirements of the 40 CFR 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines (326 IAC 20-82), because it is considered a new (construction commenced on or after June 12, 2006) stationary reciprocating internal combustion engine (RICE) at an area source of hazardous air pollutants (HAP).

The natural gas-fired emergency generator is subject the following applicable portions of the NESHAP for new stationary RICE at an area source of HAP:

- (1) 40 CFR 63.6580
- (2) 40 CFR 63.6585
- (3) 40 CFR 63.6590(a)(2)(iii) and (c)(1)
- (4) 40 CFR 63.6595(a)(7)
- (5) 40 CFR 63.6665
- (6) 40 CFR 63.6670
- (7) 40 CFR 63.6675

Pursuant to 40 CFR 63.6665, the natural gas-fired emergency generator does not have to meet the requirements of 40 CRF 63, Subpart A (General Provisions), since it is considered a new stationary RICE located at an area source of HAP emissions.

This is a new requirement in the permit. This is a Title 1 change.

(c) CAM

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)
Sulfuric Acid Pickling Facility - PM	Y	Y 326 IAC 6-3-2	6.92	2.17	100	N	N
Sulfuric Acid Pickling Facility - SO2	Y	N	-	-	100	N	-
Cooling Tower	N	-	-	-	100	N	-

Based on this evaluation, the requirements of 40 CFR Part 64, CAM are not applicable to any of the new and modified units as part of this modification.

State Rule Applicability Determination

The following state rules are applicable to the source due to the modification:

- (a) 326 IAC 2-2 (PSD)
PSD applicability is discussed under the Permit Level Determination – PSD section.
- (b) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
This source will continue to 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.
- (c) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the sulfuric acid pickling facility shall not exceed 47.02 pounds per hour when operating at a process weight rate of 64.8 tons per hour. The pound per hour limitation was calculated with the following equation:

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

$$E = 55.0 P^{0.11} - 40 \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

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

- (d) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
The proposed cooling tower is not subject to the requirements of 326 IAC 6-3-2 because this tower has potential particulate emissions less than 0.551 pounds per hour.

Compliance Determination and Monitoring Requirements

The existing compliance determination and monitoring requirements will not change as a result of this modification. The source shall continue to comply with the applicable requirements and permit conditions as contained in Part 70 Operating Permit No. 033-31290-00038, issued on August 10, 2012.

Proposed Changes

The changes listed below have been made to Part 70 Operating Permit No. 033-31290-00038. Deleted language appears as ~~strike throughs~~ and new language appears in **bold**:

1. The emission unit descriptions in Sections A.3, A.4, and D.2 have been revised to reflect the new and modified emission units.
2. The emission unit descriptions in Section D.1 have been revised to include the natural gas-fired space heaters and air makeup units.
3. A new PSD minor limit has been included in Section D.1 in order to limit the source-wide total potential to emit greenhouse gases (GHGs) to less than 100,000 tons of CO₂ equivalent emissions (CO₂e) per 12 consecutive month period.
4. Section D.1 has been revised to include new recordkeeping and reporting requirements for the new PSD minor limits. In addition, the permit has been revised to include new Part 70 Quarterly Reporting Forms.
5. Condition D.2.1 has been updated to reflect the increase in the process weight rate and allowable particulate emission rate for the sulfuric acid pickling facility.

...
A.3 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:

- ...
(c) One (1) sulfuric acid pickling facility, constructed in 1999 **and approved in 2014 for modification**, exhausting to stack EP63, with an acid recovery system, with a maximum capacity of ~~32.4~~ **64.8** tons of steel per hour;

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

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

- ...
(m) ~~Two cooling tower (975 gpm each) at the concrete pond.~~ **One (1) cooling tower at the concrete pond, approved in 2014 for construction, with a maximum water circulation rate of 1,950 gallons per minute.**
- (n) Two **(2)** cooling towers (975 gpm each) serving the Holcroft belt heat treat furnace and nut forming machine.

...
SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

...
Insignificant Activities:

(a) Natural gas-fired space heaters, with a total maximum capacity of 8.3 mmBtu/hr;

(b) Natural gas-fired air makeup units, with a total maximum capacity of 50.23 mmBtu/hr;

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

D.1.1 PSD Minor Limits [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the Permittee shall comply with the following:

- (a) The total natural gas usage for the two (2) boilers (1994 and EP54), space heaters, and air make-up units shall not exceed 391.83 million cubic feet (MMCF) per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) CO₂ emissions from natural gas combustion shall not exceed 120,000 pounds per million cubic feet (lb/MMCF).
- (c) CH₄ emissions from natural gas combustion shall not exceed 2.3 pounds per million cubic feet (lb/MMCF).
- (d) N₂O emissions from natural gas combustion shall not exceed 2.2 pounds per million cubic feet (lb/MMCF).
- (e) The total propane usage for the two (2) boilers (1994 and EP54) shall not exceed 174.02 kilogallons (kgal) per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (f) CO₂ emissions from propane combustion shall not exceed 12,500 pounds per kilogallon (lb/kgal).
- (g) CH₄ emissions from propane combustion shall not exceed 0.2 pounds per kilogallon (lb/kgal).
- (h) N₂O emissions from propane combustion shall not exceed 0.9 pounds per kilogallon (lb/kgal).

Compliance with these limits, combined with the potential to emit greenhouse gases from all other emission units at this combined source, shall limit the source-wide total potential to emit greenhouse gases (GHGs) to less than 100,000 tons of CO₂ equivalent emissions (CO₂e) per 12 consecutive month period and shall render the requirements of 326 IAC 2-2 (PSD) not applicable.

D.1.12 Particulate [326 IAC 6-2-4]

...

D.1.23 Preventive Maintenance Plan [326 IAC 2-7-5(132)]

...

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

D.1.4 Record Keeping Requirements

- (a) To document the compliance status with Condition D.1.1(a), the Permittee shall maintain monthly records of the natural gas usage for the two (2) boilers (1994 and EP54), space heaters, and air make-up units.
- (b) To document the compliance status with Condition D.1.1(e), the Permittee shall maintain monthly records of the propane usage for the two (2) boilers (1994 and EP54).
- (c) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

D.1.5 Reporting Requirements

A quarterly summary of the information to document the compliance status with Conditions D.1.1(a) and D.1.1(e) shall be submitted using the reporting form located at the end of this permit, or its equivalent, not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official," as defined by 326 IAC 2-7-1(35).

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (c) One (1) sulfuric acid pickling facility, constructed in 1999 and approved in 2014 for modification, exhausting to stack EP63, with an acid recovery system, with a maximum capacity of ~~32.4~~ **64.8** tons of steel per hour;

(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 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emission rate from the sulfuric acid pickling facility shall not exceed ~~40.6~~ **47.02** pounds per hour when operating at a process weight rate of ~~32.4~~ **64.8** tons of steel per hour. The pound per hour limitation was calculated using the following equation:

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

$$E = 55.0 P^{0.11} - 40 \quad \text{where } E = \text{rate of emission in pounds per hour and } P = \text{process weight rate in tons per hour}$$

~~The sulfuric acid pickling facility is in compliance with this limit without the use of a control device, because the potential maximum uncontrolled particulate emission rate is less than 40.6 pounds per hour.~~

...

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

Part 70 Quarterly Report

Source Name: Nucor Fastener
Source Address: 6730 County Road 60, St. Joe, Indiana 46785
Part 70 Permit No.: T033-31290-00038
Facility: Two (2) boilers (1994 and EP54), space heaters, and air make-up units
Parameter: Natural Gas Usage
Limit: The total natural gas usage for the two (2) boilers (1994 and EP54), space heaters, and air make-up units shall not exceed 391.83 million cubic feet (MMCF) per twelve (12) consecutive month period, with compliance determined at the end of each month.

YEAR: _____

Month	Natural Gas Usage for This Month (MMCF)	Natural Gas Usage for Previous 11 Months (MMCF)	Natural Gas Usage for 12-Month Period (MMCF)
Month 1			
Month 2			
Month 3			

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
 Deviation has been reported on:

Submitted by: _____
 Title / Position: _____
 Signature: _____
 Date: _____
 Phone: _____

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

Part 70 Quarterly Report

Source Name: Nucor Fastener
 Source Address: 6730 County Road 60, St. Joe, Indiana 46785
 Part 70 Permit No.: T033-31290-00038
 Facility: Two (2) boilers (1994 and EP54)
 Parameter: Propane Usage
 Limit: The total propane usage for the two (2) boilers (1994 and EP54) shall not exceed 174.02 kilogallons (kgal) per twelve (12) consecutive month period, with compliance determined at the end of each month.

YEAR: _____

Month	Propane Usage for This Month (kgal)	Propane Usage for Previous 11 Months (kgal)	Propane Usage for 12-Month Period (kgal)
Month 1			
Month 2			
Month 3			

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.

Deviation has been reported on:

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

...

- (1) IDEM has updated the Part 70 Source Definition to include the plant identification numbers and to clarify that the Part 70 Operating Permit Renewals for Nucor Fastener and Nucor Vulcraft Group - St. Joe Division have been issued.
- (2) The emission unit description for the existing natural gas-fired emergency generator has been revised to reflect that this unit is an affected facility under 40 CFR 60, Subpart JJJJ and 40 CFR 63, Subpart ZZZZ. In addition a new Section E.1 has been included in the permit, which contains the applicable requirements of 40 CFR 60, Subpart JJJJ and 40 CFR 63, Subpart ZZZZ.
- (3) On October 27, 2010, the Indiana Air Pollution Control Board issued revisions to 326 IAC 2. These revisions resulted in changes to the rule citations listed in the permit. These changes are not changes to the underlining provisions. The change is only to cite of these rules in Section D - Preventative Maintenance Plan.
- (4) On November 3, 2011, the Indiana Air Pollution Control Board issued a revision to 326 IAC 2. The revision resulted in a change to the rule site of the "responsible official" definition.
- (5) IDEM is changing the Section C Compliance Monitoring Condition to clearly describe when new monitoring for new and existing units must begin.
- (6) IDEM clarified the following condition to indicate that the analog instrument must be capable of measuring the parameters outside the normal range.
- (7) IDEM added "where applicable" to the lists in Section C - General Record Keeping Requirements to more closely match the underlying rule.
- (8) Conditions D.2.2, D.4.2, and D.5.2 have been revised to remove the statement that the emission units are in compliance with the limits without using a control device, which was inadvertently included in the permit. IDEM does not include this language in the permit.
- (9) The seven (7) bolt formers and bolt-making machine are required to operate the oil mist collection systems in order to comply with Conditions D.3.2 and D.6.2. The compliance statement in Conditions D.3.2 and D.6.2 have been moved to new conditions in the compliance determination section of Sections D.3 and D.6.

...

A.2 Part 70 Source Definition [326 IAC 2-7-1(22)]

This source consists of two (2) plants:

- (a) Nucor Fastener (**Plant ID 033-00038**) is located at 6730 County Road 60, St. Joe, Indiana 46785; and
- (b) ~~NUCOR~~ Nucor Vulcraft Group – St. Joe Division (**Plant ID 033-00027**) is located at 6610

County Road 60, St. Joe, Indiana 46785.

IDEM has determined that Nucor Fastener and NUCOR Vulcraft Group – St. Joe Division are under the common control of Nucor Corporation. These two plants are considered one source because they are located on adjacent properties, are under common ownership, and belong to the same industrial grouping. Therefore, the term “source” in the Part 70 documents refers to both Nucor Fastener and NUCOR Vulcraft Group – St. Joe Division as one major source.

Separate Part 70 permits ~~will be~~ **have been** issued to Nucor Fastener and NUCOR Vulcraft Group – St. Joe Division solely for administrative purposes.

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

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

- ...
(o) One (1) **four-stroke rich-burn** natural gas-fired emergency generator, serving the Holcraft belt heat treat furnace, with a maximum capacity of 1.95 mmBtu/hr **or 150 kilowatts, and manufactured in September 2011.**

This four-stroke rich-burn natural gas generator is considered an affected facility under the NSPS for Stationary Spark Ignition Internal Combustion Engines (40 CFR 60, Subpart JJJJ) and a new stationary reciprocating internal combustion engine at an area source of hazardous air pollutants under NESHAP for Stationary Reciprocating Internal Combustion Engines (40 CFR 63, Subpart ZZZZ).

...
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(~~3435~~), and

- ...
(c) A "responsible official" is defined at 326 IAC 2-7-1(~~3435~~).

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

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

...
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(~~3435~~).

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

- ...
(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:

...
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(~~3435~~).

- ...
(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(~~3435~~).

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

...
(b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a 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:

...
(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:

...
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(3435).

...
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(3435).

...
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(3435).

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

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

...
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(3435).

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

...
(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:

...
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(3435).

...

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

... (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:

... 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(3435).

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

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

... The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(3435).

C.8 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:

... 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(3435).

... (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(3435).

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

... (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:

... 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(3435).

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

C.11 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.**

...

C.15 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5][326 IAC 2-7-6]

...

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(3435).

C.16 Emission Statement [326 IAC 2-7-5(3)(C)(iii)][326 IAC 2-7-5(7)][326 IAC 2-7-19(c)][326 IAC 2-6]

...

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(3435).

...

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

- (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:**

...

Records of required monitoring information include the following, **where applicable:**

...

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

- (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(3435). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

...

D.2.2 Preventive Maintenance Plan [326 IAC 2-7-5(132)]

...

D.3.1 Particulate [326 IAC 6-3-2]

...

~~The oil mist collection systems shall be in operation at all times the bolt formers are in operation, in order to comply with this limit.~~

D.3.2 Preventive Maintenance Plan [326 IAC 2-7-5(132)]

...

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

D.3.3 Particulate Control

In order to ensure compliance with Condition D.3.1, the oil mist collection systems for particulate control shall be in operation and control emissions from the bolt formers at all times that the bolt farmers are in operation.

...

D.4.1 Particulate [326 IAC 6-3-2]

...
~~The nut-forming machine is in compliance with this limit without the use of a control device, because potential uncontrolled particulate emissions from the nut-forming are 0.96 pounds per hour.~~

D.4.2 Preventive Maintenance Plan [326 IAC 2-7-5(132)]

D.5.1 Particulate [326 IAC 6-3-2]

...
~~The tumble blaster is in compliance with this limit without the use of a control device, because potential uncontrolled particulate emissions from the tumble blaster are 4.05 pounds per hour.~~

D.5.2 Preventive Maintenance Plan [326 IAC 2-7-5(132)]

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

...
~~The oil mist collection systems shall be in operation at all times the bolt formers are in operation, in order to comply with this limit.~~

D.6.2 Preventive Maintenance Plan [326 IAC 2-7-5(132)]

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

D.6.3 Particulate Control

In order to ensure compliance with Condition D.6.1, the oil mist collection system for particulate control shall be in operation and control emission from the bolt-making machine at all times that the bolt-making machine is in operation.

SECTION E.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (o) One (1) four-stroke rich-burn natural gas-fired emergency generator, serving the Holcraft belt heat treat furnace, with a maximum capacity of 1.95 mmBtu/hr or 150 kilowatts, and manufactured in September 2011.**

This four-stroke rich-burn natural gas generator is considered an affected facility under the NSPS for Stationary Spark Ignition Internal Combustion Engines (40 CFR 60, Subpart JJJJ) and a new stationary reciprocating internal combustion engine at an area source of hazardous air pollutants under NESHAP for Stationary Reciprocating Internal Combustion Engines (40 CRF 63, Subpart ZZZZ).

(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) for Stationary Spark Ignition Internal Combustion Engines [40 CFR 60, Subpart JJJJ] [326 IAC 2-7-5(1)]

E.1.1 General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR Part 60, Subpart A]

The Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 12-1, except when otherwise specified in 40 CFR Part 60, Subpart JJJJ.

E.1.2 New Source Performance Standards (NSPS) for Stationary Spark Ignition Internal Combustion Engines [326 IAC 12] [40 CFR Part 60, Subpart JJJJ]

The Permittee, which owns or operates a stationary spark ignition internal combustion engine, shall comply with the following provisions of 40 CFR Part 60, Subpart JJJJ, which are incorporated by reference as 326 IAC 12:

- (1) 40 CFR 60.4230(a)(4)(iv)
- (2) 40 CFR 60.4233(c)
- (3) 40 CFR 60.4234
- (4) 40 CFR 60.4236
- (5) 40 CFR 60.4243
- (6) 40 CFR 60.4245
- (7) 40 CFR 60.4246
- (8) 40 CFR 60.4248
- (9) Table 3

The entire text of 40 CFR 60, Subpart JJJJ, is included as Attachment A of this permit.

SECTION E.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (o) One (1) four-stroke rich-burn natural gas-fired emergency generator, serving the Holcraft belt heat treat furnace, with a maximum capacity of 1.95 mmBtu/hr or 150 kilowatts, and manufactured in September 2011.

This four-stroke rich-burn natural gas generator is considered an affected facility under the NSPS for Stationary Spark Ignition Internal Combustion Engines (40 CFR 60, Subpart JJJJ) and a new stationary reciprocating internal combustion engine at an area source of hazardous air pollutants under NESHAP for Stationary Reciprocating Internal Combustion Engines (40 CFR 63, Subpart ZZZZ).

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

National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines [40 CFR 63, Subpart ZZZZ] [326 IAC 2-7-5(1)]

E.2.1 National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines [40 CFR 63, Subpart ZZZZ][326 IAC 20-82]

The Permittee, which owns or operates stationary Reciprocating Internal Combustion Engine, shall comply with the following provisions of 40 CFR Part 63, Subpart ZZZZ, which are incorporated by reference as 326 IAC 20-82:

- (1) 40 CFR 63.6580
- (2) 40 CFR 63.6585
- (3) 40 CFR 63.6590(a)(2)(iii) and (c)(1)
- (4) 40 CFR 63.6595(a)(7)
- (5) 40 CFR 63.6665
- (6) 40 CFR 63.6670
- (7) 40 CFR 63.6675

The entire text of 40 CFR 63, Subpart ZZZZ, is included as Attachment B of this permit.

Conclusion and Recommendation

The construction of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Permit Modification No. 033-34368-00038. The staff recommends to the Commissioner that this Part 70 Significant Permit Modification be approved.

IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Brian Williams at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCM 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 234-5375 or toll free at 1-800-451-6027 extension 4-5375.
- (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
Summary of Emissions from the Modified Emission Units

Company Name: NUCOR Fastener
Significant Permit Modification No: 033-34368-00038
Permit Reviewer: Brian Williams

Unlimited Potential to Emit (tons/year)											
Source	PM	PM10	PM2.5	SO2	NOx	VOC	CO	GHGs as CO2e	Total HAPs	Highest Single HAP	
Sulfuric Acid Pickling Facility	3.46	3.46	3.46	3.46	0	0	0	0	0	0	
Cooling Tower*	0	0	0	0	0	0	0	0	0	0	
Total	3.46	3.46	3.46	3.46	0	0	0	0	0	0	

* This cooling tower is replacing two (2) existing cooling towers and will have the same maximum water circulation rate. Therefore, the unlimited potential to emit will not change.

Appendix A: Emission Calculations
Summary of Emissions for the Combined Source

Company Name: NUCOR Fastener and NUCOR Vulcraft Group - St. Joe Division
Significant Permit Modification No: 033-34368-00038
Permit Reviewer: Brian Williams

Unlimited Potential to Emit (tons/year)											
Source	PM	PM10	PM2.5	SO2	NOx	VOC	CO	GHGs as CO2e	Total HAPs	Highest Single HAP	
NUCOR Vulcraft Group - St. Joe Division (Plant ID 033-00027)	775.87	776.47	776.47	0.06	10.48	1,021	8.80	12,648	7.34	7.14	Manganese
NUCOR Fastener (Plant ID 033-00038)	121.47	125.27	125.27	7.95	79.27	36.02	64.43	92,063	1.43	1.34	Hexane
Total	897.35	901.74	901.74	8.01	89.74	1,057	73.23	104,711	8.77	7.14	Manganese

Limited Potential to Emit (tons/year)											
Process/Emission Unit	PM	PM10	PM2.5	SO2	NOx	VOC	CO	GHGs as CO2e	Total HAPs	Highest Single HAP	
NUCOR Vulcraft Group - St. Joe Division (Plant ID 033-00027)	53.13	53.73	53.73	0.06	10.48	210.58	8.80	12,648	7.34	7.14	Manganese
NUCOR Fastener (Plant ID 033-00038)	121.47	125.27	125.27	7.95	79.27	36.02	64.43	75,371	1.43	1.34	Hexane
Total	174.61	179.00	179.00	8.01	89.74	246.60	73.23	88,019	8.77	7.14	Manganese

**Appendix A: Emission Calculations
Summary of Emissions**

Company Name: NUCOR Fastener
Address City IN Zip: 6730 County Road 60, St. Joe, Indiana 46785
Significant Permit Modification No: 033-34368-00038
Permit Renewal No: T033-31290-00038
Pt ID: 033-00038
Permit Reviewer: Brian Williams

Unlimited Potential to Emit (tons/year)											
Process/Emission Unit	PM	PM10	PM2.5	SO2	NOx	VOC	CO	GHGs as CO2e	Total HAPs	Highest Single HAP	
Boiler, Installed in 1994	0.09	0.33	0.33	0.03	6.10	0.47	3.54	5,996.38	0.08	0.08	Hexane
Boiler, EP54	0.08	0.28	0.28	0.02	5.21	0.40	3.02	5,117.74	0.07	0.06	Hexane
Space Heaters	0.07	0.27	0.27	0.02	3.56	0.20	2.99	4,302.36	0.07	0.06	Hexane
Air Makeup Units	0.41	1.64	1.64	0.13	21.57	1.19	18.12	26,037.03	0.41	0.39	Hexane
Eight (8) Annealing Furnaces	0.42	1.68	1.68	0.13	22.05	1.21	18.53	26,622.78	0.42	0.40	Hexane
Four (4) Heat Treat Furnaces	0.36	1.44	1.44	0.11	18.96	1.04	15.93	22,885.43	0.36	0.34	Hexane
Sulfuric Acid Pickling Facility	6.92	6.92	6.92	6.92	0	0	0	0	0	0	
One (1) Nut Former	4.20	4.20	4.20	0	0	0.17	0	0	0	0	
Tumble Blaster	17.73	17.73	17.73	0	0	0	0	0	0	0	
Bolt Formers Using Smog Hog Oil Mist	84.29	84.29	84.29	0	0	0	0	0	0	0	
Bolt Formers Using Venturi Scrubbers	6.20	6.20	6.20	0	0	31.00	0	0	0	0	
Oil and Phosphate Line	0.11	0.11	0.11	0.11	0	0.19	0	0	0	0	
Parts Waxing Line	0	0	0	0	0	0.1	0	0	0	0	
Endothermic Generators	0.01	0.04	0.04	0.00	0.56	0.03	0.47	673.86	0.01	0.01	Hexane
Waste Oil Heaters	0.04	0.04	0.04	0.47	0.17	0.02	0.03	358.51	0.01	0.01	Lead
Cooling Towers	0.53	0.09	0.09	0	0	0	0	0	0	0	
Natural Gas Emergency Generator	0.005	0.01	0.01	0.0003	1.08	0.01	1.81	69.17	0.02	0.01	Formaldehyde
Total	121.47	125.27	125.27	7.95	79.27	36.02	64.43	92,063	1.43	1.34	Hexane

Limited Potential to Emit (tons/year)											
Process/Emission Unit	PM	PM10	PM2.5	SO2	NOx	VOC	CO	GHGs as CO2e	Total HAPs	Highest Single HAP	
Boiler, Installed in 1994	0.09	0.33	0.33	0.03	6.10	0.47	3.54	24,761	0.08	0.08	Hexane
Boiler, EP54	0.08	0.28	0.28	0.02	5.21	0.40	3.02		0.07	0.06	Hexane
Space Heaters	0.07	0.27	0.27	0.02	3.56	0.20	2.99		0.07	0.06	Hexane
Air Makeup Units	0.41	1.64	1.64	0.13	21.57	1.19	18.12		0.41	0.39	Hexane
Eight (8) Annealing Furnaces	0.42	1.68	1.68	0.13	22.05	1.21	18.53	26,623	0.42	0.40	Hexane
Four (4) Heat Treat Furnaces	0.36	1.44	1.44	0.11	18.96	1.04	15.93	22,885	0.36	0.34	Hexane
Sulfuric Acid Pickling Facility	6.92	6.92	6.92	6.92	0.00	0.00	0.00	0.00	0.00	0.00	
One (1) Nut Former	4.20	4.20	4.20	0.00	0.00	0.17	0.00	0.00	0.00	0.00	
Tumble Blaster	17.73	17.73	17.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Bolt Formers Using Smog Hog Oil Mist	84.29	84.29	84.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Bolt Formers Using Venturi Scrubbers	6.20	6.20	6.20	0.00	0.00	31.00	0.00	0.00	0.00	0.00	
Oil and Phosphate Line	0.11	0.11	0.11	0.11	0.00	0.19	0.00	0.00	0.00	0.00	
Parts Waxing Line	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	
Endothermic Generators	0.01	0.04	0.04	0.00	0.56	0.03	0.47	674	0.01	0.01	Hexane
Waste Oil Heaters	0.04	0.04	0.04	0.47	0.17	0.02	0.03	359	0.01	0.01	Lead
Cooling Towers	0.53	0.09	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Natural Gas Emergency Generator	0.00	0.01	0.01	0.00	1.08	0.01	1.81	69	0.02	0.01	Formaldehyde
Total	121.47	125.27	125.27	7.95	79.27	36.02	64.43	75,371	1.43	1.34	Hexane

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

Company Name: NUCOR Fastener
Address City IN Zip: 6730 County Road 60, St. Joe, Indiana 46785
Significant Permit Modification No: 033-34368-00038
Permit Renewal No: T033-31290-00038
Pit ID: 033-00038
Permit Reviewer: Brian Williams

1. Process Description

Emission Unit ID	Heat Input Capacity (MMBtu/hr)
Boiler (1994)	9.81
Boiler (EP54)	8.37
Space Heaters	8.30
Air Makeup Units	50.23
Eight Annealing Furnaces	51.36
Four Heat Treat Furnaces	44.15
Endothermic Generators	1.30
Total	173.52

2. Combustion Emissions - Criteria Pollutants

NOx Burner Type	Fuel Heat Value (MMBtu/MMCF)	Emission Factor (lbs/MMCF)						
		PM*	PM10*	direct PM2.5	SO ₂	NOx**	VOC	CO
Ordinary Burners	1,020	1.9	7.6	7.6	0.6	100	5.5	84.0

* PM emission factor is for filterable PM only. PM10 emission factor is for condensable PM10 and filterable PM combined.

** Emission factors for NOx: Uncontrolled = 100 lbs/MMCF, Low NOx Burners = 50 lbs/MMCF

Emission factors are from AP 42, Chapter 1.4, Tables 1.4-1, and 1.4-2, SCC 1-01-006-02, 1-02-006-02, 1-03-006-02, 1-03-006-03. (7/98)

Emission Unit ID	Potential Throughput (MMCF/yr)	Potential To Emit (tons/yr)						
		PM	PM10	direct PM2.5	SO ₂	NOx	VOC	CO
Boiler (1994)	84.22	0.08	0.32	0.32	0.03	4.21	0.23	3.54
Boiler (EP54)	71.88	0.07	0.27	0.27	0.022	3.59	0.20	3.02
Space Heaters	71.28	0.068	0.27	0.27	0.021	3.56	0.20	2.99
Air Makeup Units	431.39	0.41	1.64	1.64	0.13	21.57	1.19	18.12
Eight Annealing Furnaces	441.09	0.419	1.68	1.68	0.132	22.05	1.21	18.53
Four Heat Treat Furnaces	379.17	0.360	1.44	1.44	0.114	18.96	1.04	15.93
Endothermic Generators	11.16	0.011	0.04	0.04	0.003	0.56	0.03	0.47
Total	1,490.20	1.42	5.66	5.66	0.45	74.51	4.10	62.59

Methodology

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

Potential To Emit (tons/year) = Throughput (MMCF/yr) x Emission Factor (lbs/MMCF) x 1 ton/2,000 lbs

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

3. Combustion Emissions - HAP Pollutants

Emission Factor (lbs/MMCF)									
Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	Cadmium	Chromium	Manganese	Mercury	Nickel
2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	1.1E-03	1.4E-03	3.8E-04	2.6E-04	2.1E-03

Emission Unit ID	Potential To Emit (tons/yr)											
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	Cadmium	Chromium	Manganese	Mercury	Nickel	Total HAPs	Single HAP
Boiler (1994)	8.84E-05	5.05E-05	3.16E-03	7.58E-02	1.43E-04	4.63E-05	5.90E-05	1.60E-05	1.09E-05	8.84E-05	7.95E-02	7.58E-02
Boiler (EP54)	7.55E-05	4.31E-05	2.70E-03	6.47E-02	1.22E-04	3.95E-05	5.03E-05	1.37E-05	9.34E-06	7.55E-05	6.78E-02	6.47E-02
Space Heaters	7.48E-05	4.28E-05	2.67E-03	6.42E-02	1.21E-04	3.92E-05	4.99E-05	1.35E-05	9.27E-06	7.48E-05	6.73E-02	6.42E-02
Air Makeup Units	4.53E-04	2.59E-04	1.62E-02	3.88E-01	7.33E-04	2.37E-04	3.02E-04	8.20E-05	5.61E-05	4.53E-04	4.07E-01	3.88E-01
Eight Annealing Furnaces	4.63E-04	2.65E-04	1.65E-02	3.97E-01	7.50E-04	2.43E-04	3.09E-04	8.38E-05	5.73E-05	4.63E-04	4.16E-01	3.97E-01
Four Heat Treat Furnaces	3.98E-04	2.28E-04	1.42E-02	3.41E-01	6.45E-04	2.09E-04	2.65E-04	7.20E-05	4.93E-05	3.98E-04	3.58E-01	3.41E-01
Endothermic Generators	1.17E-05	6.70E-06	4.19E-04	1.00E-02	1.90E-05	6.14E-06	7.82E-06	2.12E-06	1.45E-06	1.17E-05	1.05E-02	1.00E-02
Total	1.56E-03	8.94E-04	5.59E-02	1.34E+00	2.53E-03	8.20E-04	1.04E-03	2.83E-04	1.94E-04	1.56E-03	1.41E+00	1.34E+00

HAP emission factors are from AP 42, Chapter 1.4, Tables 1.4-3 and 1.4-4. (7/98)

Hexane

Methodology

Potential To Emit (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lbs/MMCF) x 1 ton/2,000 lbs

4. Combustion Emissions - Greenhouse Gas Emissions

Emission Factor (lbs/MMCF)		
CO2	CH4	N2O
120,000	2.3	2.2

Emission Unit ID	Potential To Emit (tons/yr)			
	CO2	CH4	N2O	CO2e
Boiler (1994)	5,053.49	0.10	0.09	5,083.52
Boiler (EP54)	4,313.01	0.08	0.08	4,338.64
Space Heaters	4,276.94	0.082	0.078	4,302.36
Air Makeup Units	25,883.22	0.50	0.47	26,037.03
Eight Annealing Furnaces	26,465.51	0.507	0.485	26,622.78
Four Heat Treat Furnaces	22,750.24	0.436	0.417	22,885.43
Endothermic Generators	669.88	0.013	0.012	673.86
Total	89,412.29	1.71	1.64	89,269.76

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 (25) + N2O Potential Emission ton/yr x N2O GWP (298).

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

**Company Name: NUCOR Fastener
Address City IN Zip: 6730 County Road 60, St. Joe, Indiana 46785
Significant Permit Modification No: 033-34368-00038
Permit Renewal No: T033-31290-00038
Plt ID: 033-00038
Permit Reviewer: Brian Williams**

1. Process Description

Emission Unit ID	Heat Input Capacity (MMBtu/hr)	Potential Throughput (MMCF/yr)	Limited Throughput (MMCF/yr)
Boiler (1994)	9.81	84.22	391.83
Boiler (EP54)	8.37	71.88	
Space Heaters	8.30	71.28	
Air Makeup Units	50.23	431.39	

2. Combustion Emissions - Greenhouse Gas Emissions

Emission Factor (lbs/MMCF)			
Fuel Heat Value (MMBtu/MMCF)	CO2	CH4	N2O
1,020	120,000	2.3	2.2

Emission Unit ID	Limited Potential To Emit (tons/yr)			
	CO2	CH4	N2O	CO2e
Boiler (1994)	23,510	0.45	0.43	23,650
Boiler (EP54)				
Space Heaters				
Air Makeup Units				

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 (25) + N2O Potential Emission ton/yr x N2O GWP (298).

**Appendix A: Emission Calculations
LPG-Propane - Commercial Boilers
(Heat input capacity: > 0.3 MMBtu/hr and < 10 MMBtu/hr)**

Company Name: NUCOR Fastener
Address City IN Zip: 6730 County Road 60, St. Joe, Indiana 46785
Significant Permit Modification No: 033-34368-00038
Permit Renewal No: T033-31290-00038
Plt ID: 033-00038
Permit Reviewer: Brian Williams

1. Process Description

Emission Unit ID	Heat Input Capacity (MMBtu/hr)
Boiler	9.81
Boiler (EP54)	8.37
Total	18.18

SO2 Emission factor = 0.10 x S

S = Sulfur Content = 0.00 grains/100ft³

2. Combustion Emissions - Criteria Pollutants

Emission Factor (lbs/kgal)						
PM*	PM10*	direct PM2.5**	SO ₂	NOx**	VOC	CO
0.20	0.70	0.70	0.00	13.00	1.00	7.50
			(0.10S)		***TOC value	

*PM emission factor is filterable PM only. PM emissions are stated to be all less than 10 microns in aerodynamic equivalent diameter, footnote in Table 1.5-1, therefore PM10 is based on the filterable and condensable PM emission factors.

** No direct PM2.5 emission factor was given. Direct PM2.5 is a subset of PM10. If one assumes all PM10 to be all direct PM2.5, then a worst case assumption of direct PM2.5 can be made.

***The VOC value given is TOC. The methane emission factor is 0.2 lb/kgal.

Emission Unit ID	Potential Throughput (kgals/yr)	Potential To Emit (tons/yr)						
		PM	PM10	direct PM2.5	SO ₂	NOx	VOC	CO
Boiler	938.90	0.09	0.33	0.33	0.00	6.10	0.47	3.52
Boiler (EP54)	801.32	0.080	0.28	0.28	0.000	5.21	0.40	3.00
Total	1,740.22	0.17	0.61	0.61	0.00	11.31	0.87	6.53

Methodology

1 gallon of LPG has a heating value of 94,000 Btu (Source - AP-42 (Supplement B 10/96) page 1.5-1)

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.0915 MMBtu

Emission Factors are from AP42 (7/08), Table 1.5-1 (SCC #1-02-010-02)

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

3. Combustion Emissions - Greenhouse Gas Emissions

Emission Factor (lbs/kgal)		
CO ₂	CH ₄	N ₂ O
12,500	0.2	0.9

Emission Unit ID	Potential To Emit (tons/yr)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
Boiler	5,868.12	0.09	0.42	5,996.38
Boiler (EP54)	5,008.28	0.080	0.361	5,117.74
Total	10,876.40	0.17	0.78	11,114.12

Methodology

Emission Factors are from AP 42 (7/08),

Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

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

CO₂e (tons/yr) = CO₂ Potential Emission ton/yr x CO₂ GWP (1) + CH₄ Potential Emission ton/yr x CH₄ GWP (25) + N₂O Potential Emission ton/yr x N₂O GWP (298).

**Appendix A: Emission Calculations
LPG-Propane - Commercial Boilers
(Heat input capacity: > 0.3 MMBtu/hr and < 10 MMBtu/hr)
Limited Greenhouse Gas Emissions**

Company Name: NUCOR Fastener
Address City IN Zip: 6730 County Road 60, St. Joe, Indiana 46785
Significant Permit Modification No: 033-34368-00038
Permit Renewal No: T033-31290-00038
Plt ID: 033-00038
Permit Reviewer: Brian Williams

1. Process Description

Emission Unit ID	Heat Input Capacity (MMBtu/hr)	Potential Throughput (kgal/yr)	Limited Throughput (kgal/yr)
Boiler	9.81	938.9	174.02
Boiler (EP54)	8.37	801.3	
Total	18.18	1,740.22	

2. Combustion Emissions - Greenhouse Gas Emissions

Emission Factor (lbs/kgal)		
CO2	CH4	N2O
12,500	0.2	0.9

Emission Unit ID	Limited Potential To Emit (tons/yr)			
	CO2	CH4	N2O	CO2e
Boiler	1,087.64	0.02	0.08	1,111.41
Boiler (EP54)				

Methodology

Emission Factors are from AP 42 (7/08),

Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

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

CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (25) + N2O Potential Emission ton/yr x N2O GWP (298).

**Appendix A: Emission Calculations
Non-Combustion
Sulfuric Acid Pickling**

Company Name: NUCOR Fastener
Address City IN Zip: 6730 County Road 60, St. Joe, Indiana 46785
Significant Permit Modification No: 033-34368-00038
Permit Renewal No: T033-31290-00038
Plt ID: 033-00038
Permit Reviewer: Brian Williams

Sulfuric Acid Pickling Facility

Maximum Uncontrolled PM/PM10 (lb/hr)*	Maximum Uncontrolled PM/PM10 (ton/yr)	Capture Efficiency Fume Exhaust (%)	Control Efficiency Scrubber and Mist Eliminator (%)	Maximum Controlled Emissions (lb/hr)	Maximum Controlled Emissions (ton/yr)
1.58	6.92	70.0%	98.0%	0.50	2.17

Since the emissions are a sulfuric acid mist, the potential to emit SO₂ is conservatively equal to PM emissions.

Methodology

Maximum controlled emissions (lb/hr) = Maximum uncontrolled PM/PM10 (lb/hr) * (1-Capture Efficiency) + Maximum uncontrolled PM/PM10 (lb/hr) * Capture Efficiency * (1-Control Efficiency)

*Since there is no applicable AP-42 emissions factor available, the pound per hour emission rate is based on 360 grams per hour, as supplied by the vendor.

**Appendix A: Emission Calculations
Nut Former
Miscellaneous Operations**

Company Name: NUCOR Fastener
Address City IN Zip: 6730 County Road 60, St. Joe, Indiana 46785
Significant Permit Modification No: 033-34368-00038
Permit Renewal No: T033-31290-00038
Plt ID: 033-00038
Permit Reviewer: Brian Williams

One (1) Nut Former

Facility	Material	Potential Usage (lb/yr)	VOC Content (%)	PM Content (%)	Potential VOC Emissions Before Controls (ton/yr)	Potential PM Emissions Before Controls (lb/hr)	Potential PM Emissions Before Controls (ton/yr)	Control Efficiency (%)	Potential PM Emissions After Controls (lb/hr)	Potential PM Emissions After Controls (ton/yr)
One (1) Nut Former	Cooling Oil	84,000	0.40%	10.00%	0.17	0.96	4.20	0.00	0.96	4.20

Total Emissions (tons/yr): **VOC = 0.17** **PM = 4.20** **PM Controlled = 4.20**

**Appendix A: Emission Calculations
Tumble Blaster
Miscellaneous Operations**

**Company Name: NUCOR Fastener
Address City IN Zip: 6730 County Road 60, St. Joe, Indiana 46785
Significant Permit Modification No: 033-34368-00038
Permit Renewal No: T033-31290-00038
Plt ID: 033-00038
Permit Reviewer: Brian Williams**

Tumble Blaster

Baghouse Collection Rate* (ton/yr)	Potential Baghouse Collection Rate (ton/yr)	Control Efficiency (%)	Potential PM** Emissions (ton/yr)	Potential PM Emissions (lb/hr)	PM Emissions After Controls (ton/yr)	PM Emissions After Controls (lb/hr)
11.7	17.55	99.0%	17.73	4.05	0.18	0.04

*Based on the information supplied by the applicant, the collection rate for the tumble blast dust collector is 11.7 tons of PM per year.

**PM=PM10

Methodology

Potential Baghouse Collection Rate = Collection Rate * 1.5

The Collection Rate is multiplied by a factor of 1.5 to account for annual variability.

Emissions (ton/yr) = Potential Baghouse Collection Rate / Control Efficiency

Emissions (lb/hr) = Emissions (ton/yr) * 2000 lb/ton / 8760 hrs/yr

Emissions After Controls = Potential Emissions * (1 - Control Efficiency)

**Appendix A: Emissions Calculations
Waste Oil Combustion
Space Heater-Vaporizing Burner**

Company Name: NUCOR Fastener
Address City IN Zip: 6730 County Road 60, St. Joe, Indiana 46785
Significant Permit Modification No: 033-34368-00038
Permit Renewal No: T033-31290-00038
Plt ID: 033-00038
Permit Reviewer: Brian Williams

Heat Input Capacity MMBtu/hr	Potential Throughput kgals/year	A = Weight % Ash =	1.00
0.50	31.51	L = Weight % Lead =	1.00
		S = Weight % Sulfur =	0.30

Emission Factor in lb/kgal	Pollutant							
	PM*	PM10*	PM2.5*	SO2	NOx	TOC	CO	Pb
	2.8 (2.8A)	0.00 (ND)	0.00 (ND)	30.0 (100S)	11.0	1.0	1.7	0.41 (0.41L)
Potential Emission in tons/yr	0.04	0.04	0.04	0.47	0.17	0.02	0.03	0.01

*No information was given in AP-42 regarding whether the PM emission factor included filterable and condensable PM.
 No Emission factor listed for PM10 or PM2.5. Assumes PM10/PM2.5 = PM

Emission Factor in lb/kgal	HAPs - Metals				
	Arsenic	Chromium	Cobalt	Nickel	Phosphorus
	2.5E-03	1.9E-01	5.7E-03	5.0E-02	3.6E-02
Potential Emission in tons/yr	3.94E-05	2.99E-03	8.98E-05	7.88E-04	5.67E-04

Emission Factor in lb/kgal	HAPs - Organics				
	Naphthalene	Phenanthrene/ anthracene	Pyrene	Benz(a)anthracene/c hrysene	Benzo(a) pyrene
	1.3E-02	1.1E-02	7.1E-03	4.0E-03	4.0E-03
Potential Emission in tons/yr	2.05E-04	1.73E-04	1.12E-04	6.30E-05	6.30E-05

Total HAPs =	0.01
Single HAP =	0.006 Pb

Emission Factor in kg/mmBtu from 40 CFR 98	Greenhouse Gas		
	CO2	CH4	N2O
	74	0.003	0.0006
Potential Emission in tons/yr	357	0.0	0.0
Summed Potential Emissions in tons/yr	357		
CO2e Total in tons/yr	359		

Methodology

Emission Factor Units are lb/1000 gal
 ND = No data was available for the PM10 emission factor.
 A = weight% ash in fuel, L = weight% lead in fuel, S = weight % sulfur in fuel
 Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.139 MM Btu
 Emission Factors from AP-42, Chapter 1.11, SCC 1-05-001-14 (Supplement B 10/96)
 Emission (tons/yr) = Throughput kgals per year x Emission Factor (lb/kgal)/2,000 lb/ton
 The five metal and five organic HAPs with the highest emission factors are presented above.
 Additional emission factors for additional HAPs with smaller emission factors are available in AP-42, 5th edition (Supplement B 10/96).
 Greenhouse Gas Emission Factor Units are in kg/mmBtu.
 Emission Factors from Tables C-1 and 2 of 40 CFR Part 98 Subpart C. Waste oil is called Used oil in 40 CFR 98.
 Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
 Potential Emission (tons/yr) = Heat Input Capacity mmBtu/hr x Emission Factor (kg/mmBtu) x 2.20462 lb/kg x 8760 hrs/yr /2,000 lb/ton
 CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (25) + N2O Potential Emission ton/yr x N2O GWP (298).

**Appendix A: Emission Calculations
Parts Waxing Line and Phosphate and Oil Line
Miscellaneous Operations**

Company Name: NUCOR Fastener
Address City IN Zip: 6730 County Road 60, St. Joe, Indiana 46785
Significant Permit Modification No: 033-34368-00038
Permit Renewal No: T033-31290-00038
Plt ID: 033-00038
Permit Reviewer: Brian Williams

Parts Waxing Line

Unit	Capacity (gal/yr)	Wax Density (lb/gal)	VOC Content (wt. %)	PTE VOC (lb/yr)	PTE VOC (ton/yr)
Parts Waxing Line	2250	8.42	1.0%	189.45	0.1

Methodology

- Wax density and VOC Content values were provided by the Permittee.
- PTE VOC (lb/yr) = Capacity (gal/yr) * Density (lb/gal) * VOC Content (lb VOC/lb Wax)
- PTE VOC (ton/yr) = PTE VOC (lb/yr) * (1 ton / 2000 lb)

Phosphate and Oil Line

Tank #	Chemical in Tank	Tank Capacity (gal)	Tank Concentration (%)	Chemical Usage Rate (gal/yr)	Density (lb/gal)	VOC Content (wt. %)	PM EF (lb PM/ton H ₂ SO ₄)	PTE VOC (ton/yr)	PTE PM ₁₀ / SO ₂ * (ton/yr)
1	Degreaser (NST)	250	5%	600		--	--	--	--
2	Rinse Water	250	100%			--	--	--	--
3	Rinse Water	250	100%			--	--	--	--
4	Rinse Water	250	100%			--	--	--	--
5	De-phosphate (GC 390)	250	13%	1560		--	--	--	--
6	Sulfuric Acid	600	12%	7000	15.3	--	4.14	--	0.11
7	Rinse Water	250	100%			--	--	--	--
8	Rinse Water	250	100%			--	--	--	--
9	Activator GL V 65	250	10%	1200		--	--	--	--
10	Zinc Phosphate (GB Z 3190)	600	12%	3456		--	--	--	--
11	Zinc Phosphate (GB Z 3190)	250	12%	1440		--	--	--	--
12	Rinse Water	250	100%			--	--	--	--
13	Rinse Water	250	100%			--	--	--	--
14	Neutralizer (GL V	250	12%	1440		--	--	--	--
15	Dry Oil (RP 4106)	250	11%	1320		--	--	--	--
16	Wet Oil (398LT)	250	15%	1800	8.5	2.5%	--	0.19	--
Total								0.19	0.11

Methodology

- Chemical Rate Usage, Density, and VOC content were provided by the Permittee.
 - The PM EF is based on the uncontrolled emissions from the present pickle line: (0.79 lb PM/hr) * (8760 hr/yr) / (1669.9 tons H₂SO₄/yr) = 4.14 lb PM/ton H₂SO₄
 - The PTE of PM₁₀ is assumed to equal the PTE of PM.
 - PTE VOC (ton/yr) = Chemical Rate Usage (gal/yr) * Density (lb/gal) * VOC Content (lb VOC/lb Chemical) * (1 ton/2000 lb)
 - PTE PM₁₀/SO₂ (ton/yr) = H₂SO₄ Usage (gal/yr) * H₂SO₄ Density (lb/gal) * (1 ton / 2000 lb) * PM EF (lb PM/ton H₂SO₄) * (1 ton / 2000 lb)
- *Since the emissions are sulfuric acid mist, the PTE to emit SO₂ is conservatively equal to PM PTE.

**Appendix A: Emission Calculations
Bolt-Former Machines**

Company Name: NUCOR Fastener
Address City IN Zip: 6730 County Road 60, St. Joe, Indiana 46785
Significant Permit Modification No: 033-34368-00038
Permit Renewal No: T033-31290-00038
Plt ID: 033-00038
Permit Reviewer: Brian William

Bolt Formers Using Smog Hog Oil Mist Collectors for Particulate Control

Machine #	Rate of Units Processed (ton/hr)	Cooling Oil Usage (gal/hr)	Density of Cooling Oil (lb/gal)	PM Emitted (lb PM/lb Cooling Oil)	Uncontrolled PTE PMPM ₁₀ /PM _{2.5}		Control Efficiency (%)	Controlled PTE PMPM ₁₀ /PM _{2.5}		Total Process Weight Rate (ton/hr)	326 IAC 6-3-2 Allowable PM Emissions (lb/hr)
					(lb/hr)	(ton/yr)		(lb/hr)	(ton/yr)		
5 (Moved from Venturi Units)	1.92	7,594.94	7.59	0.5	3.29	14.41	90.0%	0.33	1.44	1.923	6.35
6 (Moved from Venturi Units)	2.21	8,742.09	7.59	0.5	3.79	16.59	90.0%	0.38	1.66	2.214	6.98
20	0.62	2,452.53	7.59	0.5	1.06	4.65	90.0%	0.11	0.47	0.621	2.98
26	1.78	7,041.14	7.59	0.5	3.05	13.36	90.0%	0.31	1.34	1.783	6.04
27	1.73	6,843.35	7.59	0.5	2.96	12.99	90.0%	0.30	1.30	1.733	5.93
28	0.92	3,639.24	7.59	0.5	1.58	6.91	90.0%	0.16	0.69	0.922	3.88
29*	0.30	1,186.71	7.59	0.5	0.51	2.25	90.0%	0.05	0.23	0.301	N/A - exempt
31	1.75	6,922.47	7.59	0.5	3.00	13.14	90.0%	0.30	1.31	1.753	5.97
Total		44,422.47			19.24	84.29		1.92	8.43		32.16 lb/hr or 140.9 tpy

*This is an Insignificant Activity as defined in 326 IAC 2-7-1(21).

Methodology

- Cooling Oil Usage is based on a total potential usage of 37,500 gal/yr for all the bolt formers using Smog Hog oil mist collection systems for particulate control. The Permittee estimates that the rate of oil to each individual bolt former will be approximately proportionate to rate of units processed by each machine.
- Density of Cooling Oil, PM Emitted, and Control Efficiency values are based off of calculations performed in Appendix A to the TSD of Part 70 Operating Permit No. T033-20219-00038.
- The PTE of PM₁₀/PM_{2.5} is assumed to equal the PTE of PM.
- Uncontrolled PTE PMPM₁₀/PM_{2.5} (lb/hr) = Cooling Oil Usage (gal/yr) * Density of Cooling Oil (lb/gal) * PM Emitted (lb PM/lb Cooling Oil) * (1 yr / 8760 hr)
- Controlled PTE PMPM₁₀/PM_{2.5} (lb/hr) = Uncontrolled PTE PMPM₁₀/PM_{2.5} (lb/hr) * (1 - Control Efficiency)
- PTE (ton/yr) = PTE (lb/hr) * (8760 hr/yr) * (1 ton / 2000 lb)
- Total Process Weight Rate (ton/hr) = Rate of Units Processed (ton/hr) + [Cooling Oil Rate (gal/yr) * Density of Cooling Oil (lb/gal) * (1 yr/8760 hr) * (1 ton / 2000 lb)]
- 326 IAC 6-3-2 Allowable PM Emissions (lb/hr) = 4.10 * [Process Weight Rate (ton/hr)]^{0.87}
- Pursuant to 326 IAC 6-3-1(b)(14), manufacturing processes with potential emissions less than 0.551 pounds per hour are exempt from 326 IAC 6-3.

Bolt Formers Using the Venturi Scrubber Systems for Particulate Control

Machine #	Rate of Units Processed (tons/hr)	Cooling Oil Usage (lb/yr)	VOC Content (lb VOC/lb Cooling Oil)	PM Emitted (lb PM/lb Cooling Oil)	PTE VOC (ton/yr)	Uncontrolled PTE PMPM ₁₀ /PM _{2.5}		Control Efficiency (%)	Controlled PTE PMPM ₁₀ /PM _{2.5}		Total Process Weight Rate (ton/hr)	326 IAC 6-3-2 Allowable PM Emissions (lb/hr)
						(lb/hr)	(ton/yr)		(lb/hr)	(ton/yr)		
1	6.33	18174	0.5	0.1	4.543	0.207	0.909	98.0%	0.00415	0.0182	6.33	N/A - exempt
2*	1.49	4278	0.5	0.1	1.069	0.049	0.214	98.0%	0.00098	0.0043	1.49	N/A - exempt
3*	1.53	4393	0.5	0.1	1.098	0.050	0.220	98.0%	0.00100	0.0044	1.53	N/A - exempt
4*	3.42	9819	0.5	0.1	2.455	0.112	0.491	98.0%	0.00224	0.0098	3.42	N/A - exempt
7	4.38	12575	0.5	0.1	3.144	0.144	0.629	98.0%	0.00287	0.0126	4.38	N/A - exempt
8*	1.85	5311	0.5	0.1	1.328	0.061	0.266	98.0%	0.00121	0.0053	1.85	N/A - exempt
9*	1.19	3417	0.5	0.1	0.854	0.039	0.171	98.0%	0.00078	0.0034	1.19	N/A - exempt
10 (new)	4.38	12575	0.5	0.1	3.144	0.144	0.629	98.0%	0.00287	0.0126	4.38	N/A - exempt
11	4.02	11542	0.5	0.1	2.885	0.132	0.577	98.0%	0.00264	0.0115	4.02	N/A - exempt
12*	1.52	4364	0.5	0.1	1.091	0.050	0.218	98.0%	0.00100	0.0044	1.52	N/A - exempt
13*	0.59	1694	0.5	0.1	0.423	0.019	0.085	98.0%	0.00039	0.0017	0.59	N/A - exempt
14*	0.51	1464	0.5	0.1	0.366	0.017	0.073	98.0%	0.00033	0.0015	0.51	N/A - exempt
15*	0.77	2211	0.5	0.1	0.553	0.025	0.111	98.0%	0.00050	0.0022	0.77	N/A - exempt
16*	0.84	2412	0.5	0.1	0.603	0.028	0.121	98.0%	0.00055	0.0024	0.84	N/A - exempt
17*	0.54	1550	0.5	0.1	0.388	0.018	0.078	98.0%	0.00035	0.0016	0.54	N/A - exempt
19*	0.30	861	0.5	0.1	0.215	0.010	0.043	98.0%	0.00020	0.0009	0.30	N/A - exempt
21*	0.22	632	0.5	0.1	0.158	0.007	0.032	98.0%	0.00014	0.0006	0.22	N/A - exempt
22*	0.35	1005	0.5	0.1	0.251	0.011	0.050	98.0%	0.00023	0.0010	0.35	N/A - exempt
23*	0.13	373	0.5	0.1	0.093	0.004	0.019	98.0%	0.00009	0.0004	0.13	N/A - exempt
24*	2.44	7005	0.5	0.1	1.751	0.080	0.350	98.0%	0.00160	0.0070	2.44	N/A - exempt
25	4.64	13322	0.5	0.1	3.330	0.152	0.666	98.0%	0.00304	0.0133	4.64	N/A - exempt
30*	1.75	5024	0.5	0.1	1.256	0.057	0.251	98.0%	0.00115	0.0050	1.75	N/A - exempt
		124000			31.00	1.42	6.20		0.03	0.12		

*Insignificant Activity as defined in 326 IAC 2-7-1(21).

Methodology

- Cooling Oil Usage is based on a total potential usage of 124,000 lb/yr for all the bolt formers using the Venturi scrubbers for particulate control. This usage represents an increase in total potential usage from 78,770 pounds per year. The Permittee estimates that the rate of oil to each individual bolt former will be approximately proportional to the rate of units processed by each machine.
- VOC Content, PM Emitted, and Control Efficiency values are based off of calculations performed in Appendix A to the TSD of Part 70 Operating Permit No. T033-20219-00038.
- PTE VOC (ton/yr) = Cooling Oil Usage (lb/yr) * VOC Content (lb VOC/lb Cooling Oil) * (1 ton / 2000 lb)
- The PTE of PM₁₀/PM_{2.5} is assumed to equal the PTE of PM.
- Uncontrolled PTE PMPM₁₀/PM_{2.5} (lb/hr) = Cooling Oil Usage (lb/yr) * PM Emitted (lb PM/lb Cooling Oil) * (1 yr / 8760 hr)
- Controlled PTE PMPM₁₀/PM_{2.5} (lb/hr) = Uncontrolled PTE PMPM₁₀ (lb/hr) * (1 - Control Efficiency)
- PTE (ton/yr) = PTE (lb/hr) * (8760 hr/yr) * (1 ton / 2000 lb)
- Total Process Weight Rate (ton/hr) = Rate of Units Processed (ton/hr) + [Cooling Oil Rate (lb/yr) * (1 yr/8760 hr) * (1 ton / 2000 lb)]
- Pursuant to 326 IAC 6-3-1(b)(14), manufacturing processes with potential emissions less than 0.551 pounds per hour are exempt from 326 IAC 6-3.

**Appendix A: Emission Calculations
Cooling Towers**

**Company Name: NUCOR Fastener
Address City IN Zip: 6730 County Road 60, St. Joe, Indiana 46785
Significant Permit Modification No: 033-34368-00038
Permit Renewal No: T033-31290-00038
Pit ID: 033-00038
Permit Reviewer: Brian Williams**

One (1) Cooling Tower at the concrete pond (1,950 gpm)

Estimated max total dissolved solids concentration of 1,250 ppm

Drift loss rate of 0.005%

$$\text{PM} = 1,950 \text{ (gal/min)} * (1,250/1,000,000) * (8.345 \text{ lb/gal}) * 0.00005 * 60 = 0.06 \text{ lb/hr}$$

$$\text{PM} = 0.061 * 8760 / 2000 = 0.27 \text{ tpy}$$

Assume 16% of PM is PM10. Assume PM2.5 = PM10

$$\text{PM10/PM2.5} = 0.16 * 0.2673 \text{ tpy} = 0.04 \text{ tpy}$$

Two (2) Cooling Towers at the Holcroft belt heat reat furnace (each 975 gpm)

Estimated max total dissolved solids concentration of 1,250 ppm

Drift loss rate of 0.005%

$$\text{PM} = 975 \text{ (gal/min)} * (1,250/1,000,000) * (8.345 \text{ lb/gal}) * 0.00005 * 60 = 0.031 \text{ lb/hr}$$

$$\text{PM} = 0.031 * 8760 / 2000 = 0.13 \text{ tpy}$$

$$\text{PM for 2 cooling towers} = 0.27 \text{ tpy}$$

Assume 16% of PM is PM10. Assume PM2.5 = PM10

$$\text{PM10/PM2.5} = 0.16 * 0.2673 \text{ tpy} = 0.04 \text{ tpy}$$

**Appendix A: Emission Calculations
Reciprocating Internal Combustion Engines - Natural Gas
4-Stroke Rich-Burn (4SRB) Engines**

Company Name: NUCOR Fastener
Address City IN Zip: 6730 County Road 60, St. Joe, Indiana 46785
Significant Permit Modification No: 033-34368-00038
Permit Renewal No: T033-31290-00038
Plt ID: 033-00038
Permit Reviewer: Brian Williams

Maximum Heat Input Capacity (MMBtu/hr)	1.95
Maximum Hours Operated per Year (hr/yr)	500
Potential Fuel Usage (MMBtu/yr)	975
High Heat Value (MMBtu/MMscf)	1020
Potential Fuel Usage (MMcf/yr)	0.96

Criteria Pollutants	Pollutant						
	PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO
Emission Factor (lb/MMBtu)	9.50E-03	1.94E-02	1.94E-02	5.88E-04	2.21E+00	2.96E-02	3.72E+00
Potential Emissions (tons/yr)	0.0046	0.01	0.01	0.0003	1.08	0.01	1.81

*PM emission factor is for filterable PM-10. PM10 emission factor is filterable PM10 + condensable PM.
PM2.5 emission factor is filterable PM2.5 + condensable PM.

Hazardous Air Pollutants (HAPs)

Pollutant	Emission Factor (lb/MMBtu)	Potential Emissions (tons/yr)
Acetaldehyde	2.79E-03	0.001
Acrolein	2.63E-03	0.001
Benzene	1.58E-03	0.001
1,3-Butadiene	6.63E-04	0.000
Formaldehyde	2.05E-02	0.010
Methanol	3.06E-03	0.001
Total PAH**	1.41E-04	0.000
Toluene	5.58E-04	0.000
Xylene	1.95E-04	0.000
Total		0.02

HAP pollutants consist of the nine highest HAPs included in AP-42 Table 3.2-3.

**PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)

Methodology

Emission Factors are from AP-42 (Supplement F, July 2000), Table 3.2-3

Potential Fuel Usage (MMBtu/yr) = [Maximum Heat Input Capacity (MMBtu/hr)] * [Maximum Hours Operating per Year (hr/yr)]

Potential Emissions (tons/yr) = [Potential Fuel Usage (MMBtu/yr)] * [Emission Factor (lb/MMBtu)] / [2000 lb/ton]

Greenhouse Gases (GHGs)	Greenhouse Gas (GHG)		
	CO2	CH4	N2O
Emission Factor in lb/MMBtu*	110	1.25	
Emission Factor in lb/MMcf**			2.2
Potential Emission in tons/yr	53.63	0.61	0.00
Summed Potential Emissions in tons/yr	54.24		
CO2e Total in tons/yr	69.17		

Methodology

*The CO2 and CH4 emission factors are from Emission Factors are from AP-42 (Supplement F, July 2000), Table 3.2-2

**The N2O emission factor is from AP 42, Table 1.4-2. The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.

Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

For CO2 and CH4: Emission (tons/yr) = [Potential Fuel Usage (MMBtu/yr)] * [Emission Factor (lb/MMBtu)] / [2,000 lb/ton]

For N2O: Emission (tons/yr) = [Potential Fuel Usage (MMCF/yr)] * [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 (25) + N2O Potential Emission ton/yr x N2O GWP (298).

Abbreviations

PM = Particulate Matter

PM10 = Particulate Matter (<10 um)

SO2 = Sulfur Dioxide

NOx = Nitrous Oxides

VOC = Volatile Organic Compounds

CO = Carbon Monoxide

CO2 = Carbon Dioxide

CH4 = Methane

N2O = Nitrous Oxide

CO2e = CO2 equivalent emissions

**Appendix A: Emission Calculations
Summary of Emissions**

Company Name: NUCOR Vulcraft Group - St. Joe Division
Address City IN Zip: 6610 County Road 60, St. Joe, Indiana 46785
Significant Permit Modification No: 033-34368-00038
Permit Renewal No: T033-32592-00027
Pit ID: 033-00027
Permit Reviewer: Brian Williams

Unlimited Potential to Emit (tons/year)											
Process/Emission Unit	PM	PM10	PM2.5	SO2	NOx	VOC	CO	GHGs as CO2e	Total HAPs	Highest Single HAP	
Dip Coating, Flow Coating, or Roll Coating Application	0	0	0	0	0	788.03	0	0	0	0	
Spray Coating Unit 1 and Spray Coating Unit 2	762.74	762.74	762.74	0	0	231.29	0	0	0	0	
Aerosol Touch-Up	1.26	1.26	1.26	0	0	1.16	0	0	0	0	
Welding	11.67	11.67	11.67	0	0	0	0	0	7.14	7.14	Manganese
Natural Gas Combustion	0.20	0.80	0.80	0.06	10.48	0.58	8.80	12,648	0.20	0.19	Hexane
Total	775.87	776.47	776.47	0.06	10.48	1,021.06	8.80	12,648	7.34	7.14	Manganese

Limited Potential to Emit (tons/year)												
Process/Emission Unit	PM*	PM10*	PM2.5*	SO2	NOx	VOC**	CO	GHGs as CO2e	Total HAPs	Highest Single HAP		
Dip Coating, Flow Coating, or Roll Coating Application	0	0	0	0	0	210.00	0	0	0	0		
Spray Coating Unit 1 and Spray Coating Unit 2	40.00	40.00	40.00	0	0		0	0	0	0	0	
Aerosol Touch-Up	1.26	1.26	1.26	0	0		0	0	0	0	0	
Welding	11.67	11.67	11.67	0	0	0	0	0	7.14	7.14	Manganese	
Natural Gas Combustion	0.20	0.80	0.80	0.06	10.48	0.58	8.80	12,648	0.20	0.19		
Total	53.13	53.73	53.73	0.06	10.48	210.58	8.80	12,648	7.34	7.14	Manganese	

* The PM, PM10 and PM2.5 potential to emit for the spray coating units is based on PSD minor limits.

* The VOC potential to emit for the dip, flow, and roll coating application process, spray coating units, and aerosol touch-up is based on PSD minor limits.

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

Company Name: **NUCOR Vulcraft Group - St. Joe Division**
Address City IN Zip: **6610 County Road 60, St. Joe, Indiana 46785**
Significant Permit Modification No: **033-34368-00038**
Permit Renewal No: **T033-32592-00027**
Plt ID: **033-00027**
Permit Reviewer: **Brian Williams**

Dip coating, Flow coating, or Roll coating application

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
Super Long Span Line	9.9	63.75%	52.20%	11.60%	62.30%	21.88%	1.77	10	3.05	1.15	20.33	487.84	89.03	0.00	5.25	100%
Long Span Line	9.9	63.75%	52.20%	11.60%	62.30%	21.88%	2.09	10	3.05	1.15	24.00	576.04	105.13	0.00	5.25	100%
Middle Span Line	11.1	1.80%	0.00%	1.80%	0.00%	38.46%	2.1	10	0.20	0.20	4.20	100.70	18.38	0.00	0.52	100%
Short Span Line	9.9	63.75%	52.20%	11.60%	62.30%	21.88%	3.26	9	3.05	1.15	33.69	808.66	147.58	0.00	5.25	100%
Combo Line	9.9	63.75%	52.20%	11.60%	62.30%	21.88%	3.23	12	3.05	1.15	44.51	1068.29	194.96	0.00	5.25	100%
Bridging Line	9.9	63.75%	52.20%	11.60%	62.30%	21.88%	2.1	10	3.05	1.15	24.12	578.79	105.63	0.00	5.25	100%
Deck Line	9.1	54.44%	51.30%	3.10%	56.00%	39.55%	1.3	40	0.64	0.28	14.67	352.06	64.25	0.00	0.71	100%
	10.1	46.61%	44.10%	2.50%	53.30%	41.19%	1.3	40	0.54	0.25	13.13	315.12	57.51	0.00	0.61	100%
Deck Line - Edge Coater	9.2	67.02%	55.50%	11.50%	61.50%	23.61%	0.03	40	2.75	1.06	1.27	30.47	5.56	0.00	4.48	100%
788.03														0.00		

Spray Coating Unit 1 and Spray Coating Unit 2, each

Line	Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	Transfer Efficiency
Super Long Span Line	Armitage WD-27185VW	10.8	48.00%	43.2%	4.8%	0.0%	0.00%	1.77000	10.000	0.52	0.52	9.19	220.68	40.27	174.15	60%
Long Span Line	Armitage WD-27185VW	10.8	48.00%	43.2%	4.8%	0.0%	0.00%	2.09000	10.000	0.52	0.52	10.86	260.57	47.55	205.64	60%
Combo Line	Armitage WD-27185VW	10.8	48.00%	43.2%	4.8%	0.0%	0.00%	3.23000	12.000	0.52	0.52	20.14	483.24	88.19	381.37	60%
Middle Span Line	Century 220-D-407	11.1	41.55%	34.3%	7.3%	0.0%	0.00%	3.26000	10.000	0.81	0.81	28.40	633.68	115.65	370.89	60%
Short Span Line	Century 220-D-509A	10.9	52.13%	47.3%	4.8%	0.0%	0.00%	3.28000	9.000	0.52	0.52	15.38	369.18	67.38	288.22	60%
Uncontrolled Potential Emissions for One Spray Coating Unit														115.65	381.37	
Uncontrolled Potential Emissions for Two Spray Coating Units														231.29	762.74	

Aerosol Touch-Up

Line	Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Usage (gal/yr)	Pounds VOC per gallon of coating less water	Potential VOC tons per year	Particulate Potential (ton/yr)
Bridging Line	Marcus SP-12598-7	9.8	50.46%	37.4%	13.0%	0.0%	52.000	1.276	0.13	0.13
Deck Line	Century 220-W-203C	9.5	54.27%	38.2%	16.1%	0.0%	52.000	1.527	0.13	0.11
	Century 220-W-167C	11.1	43.86%	30.4%	13.5%	0.0%	52.000	1.490	0.13	0.16
Deck Line - Edge Coater	Century 220-C-403	9.0	46.64%	25.6%	21.1%	0.0%	52.000	1.890	0.11	0.12
Super Long Span Line	Armitage WD-27185VW	10.8	48.00%	43.2%	4.8%	0.0%	52.000	0.519	0.13	0.15
Long Span	Armitage WD-27185VW	10.8	48.00%	43.2%	4.8%	0.0%	52.000	0.519	0.13	0.15
Combo Span Line	Armitage WD-27185VW	10.8	48.00%	43.2%	4.8%	0.0%	52.000	0.534	0.13	0.15
Middle Span Line	Century 220-D-406	11.1	41.55%	34.3%	7.3%	0.0%	52.000	0.757	0.12	0.17
Short Span Line	Century 220-D-509A	10.4	52.13%	47.3%	4.8%	0.0%	52.000	0.500	0.14	0.13
1.16									1.26	

METHODOLOGY

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

Appendix A: Emissions Calculations
Welding

Company Name: NUCOR Vulcraft Group - St. Joe Division
Address City IN Zip: 6610 County Road 60, St. Joe, Indiana 46785
Significant Permit Modification No: 033-34368-00038
Permit Renewal No: T033-32592-00027
Plt ID: 033-00027
Permit Reviewer: Brian Williams

PROCESS	Number of Stations	Max. electrode consumption per station (lbs/hr)	EMISSION FACTORS* (lb pollutant/lb electrode)				EMISSIONS (lbs/hr)				HAPS (lbs/hr)
			PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
WELDING											
GMAW	1	512.5	0.0052	0.0032	1.00E-06	1.00E-06	2.67	1.63	5.13E-04	5.13E-04	1.63
EMISSION TOTALS											
Potential Emissions lbs/hr							2.67	1.63	0.001	0.001	1.63
Potential Emissions lbs/day							63.96	39.11	0.012	0.012	39.14
Potential Emissions tons/year							11.67	7.14	0.002	0.002	7.14

Methodology:

*Emission Factors are default values for carbon steel unless a specific electrode type is noted in the Process column.

Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr/station)(emission factor, lb. pollutant/lb. of electrode used)

Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day

Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/year x 1 ton/2,000 lbs.

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

Company Name: NUCOR Vulcraft Group - St. Joe Division
Address City IN Zip: 6610 County Road 60, St. Joe, Indiana 46785
Significant Permit Modification No: 033-34368-00038
Permit Renewal No: T033-32592-00027
Plt ID: 033-00027
Permit Reviewer: Brian Williams

1. Process Description

Emission Unit ID	Heat Input Capacity (MMBtu/hr)
Space Heaters	17.60
Air Makeup Units	5.80
Combo Line Oven	1.00
Total	24.40

2. Combustion Emissions - Criteria Pollutants

NOx Burner Type	Fuel Heat Value (MMBtu/MMCF)	Emission Factor (lbs/MMCF)						
		PM*	PM10*	direct PM2.5	SO ₂	NOx**	VOC	CO
Ordinary Burners	1,020	1.9	7.6	7.6	0.6	100	5.5	84.0

* PM emission factor is for filterable PM only. PM10 emission factor is for condensable PM10 and filterable PM combined.

** Emission factors for NOx: Uncontrolled = 100 lbs/MMCF, Low NOx Burners = 50 lbs/MMCF

Emission factors are from AP 42, Chapter 1.4, Tables 1.4-1, and 1.4-2, SCC 1-01-006-02, 1-02-006-02, 1-03-006-02, 1-03-006-03. (7/98)

Emission Unit ID	Potential Throughput (MMCF/yr)	Potential To Emit (tons/yr)						
		PM	PM10	direct PM2.5	SO ₂	NOx	VOC	CO
Space Heaters	151.15	0.14	0.57	0.57	0.05	7.56	0.42	6.35
Air Makeup Units	49.81	0.05	0.19	0.19	0.015	2.49	0.14	2.09
Combo Line Oven	8.59	0.008	0.03	0.03	0.003	0.43	0.02	0.36
Total	209.55	0.20	0.80	0.80	0.06	10.48	0.58	8.80

Methodology

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

Potential To Emit (tons/year) = Throughput (MMCF/yr) x Emission Factor (lbs/MMCF) x 1 ton/2,000 lbs

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

3. Combustion Emissions - HAP Pollutants

Emission Factor (lbs/MMCF)									
Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	Cadmium	Chromium	Manganese	Mercury	Nickel
2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	1.1E-03	1.4E-03	3.8E-04	2.6E-04	2.1E-03

Potential To Emit (tons/yr)												
Emission Unit ID	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	Cadmium	Chromium	Manganese	Mercury	Nickel	Total HAPs	Single HAP
Space Heaters	1.59E-04	9.07E-05	5.67E-03	1.36E-01	2.57E-04	8.31E-05	1.06E-04	2.87E-05	1.96E-05	1.59E-04	1.43E-01	1.36E-01
Air Makeup Units	5.23E-05	2.99E-05	1.87E-03	4.48E-02	8.47E-05	2.74E-05	3.49E-05	9.46E-06	6.48E-06	5.23E-05	4.70E-02	4.48E-02
Combo Line Oven	9.02E-06	5.15E-06	3.22E-04	7.73E-03	1.46E-05	4.72E-06	6.01E-06	1.63E-06	1.12E-06	9.02E-06	8.10E-03	7.73E-03
Total	2.20E-04	1.26E-04	7.86E-03	1.89E-01	3.56E-04	1.15E-04	1.47E-04	3.98E-05	2.72E-05	2.20E-04	1.98E-01	1.89E-01

HAP emission factors are from AP 42, Chapter 1.4, Tables 1.4-3 and 1.4-4. (7/98)

Hexane

Methodology

Potential To Emit (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lbs/MMCF) x 1 ton/2,000 lbs

4. Combustion Emissions - Greenhouse Gas Emissions

Emission Factor (lbs/MMCF)		
CO2	CH4	N2O
120,000	2.3	2.2

Potential To Emit (tons/yr)				
Emission Unit ID	CO2	CH4	N2O	CO2e
Space Heaters	9,069.18	0.17	0.17	9,123.07
Air Makeup Units	2,988.71	0.06	0.05	3,006.47
Combo Line Oven	515.29	0.010	0.009	518.36
Total	12,573.18	0.24	0.23	12,647.89

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 (25) + N2O Potential Emission ton/yr x N2O GWP (298).



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: John Harden
Nucor Fastener
6730 County Road 60
St. Joe, IN 46785

DATE: August 7, 2014

FROM: Matt Stuckey, Branch Chief
Permits Branch
Office of Air Quality

SUBJECT: Final Decision
Title V Significant Permit Modification
033-34368-00038

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:
Tom Miller, VP/GM
Herbert Weidemann, Environmental Resources Management (ERM)
OAQ Permits Branch Interested Parties List

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at jbrush@idem.IN.gov.

Final Applicant Cover letter.dot 6/13/2013



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Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

August 7, 2014

TO: Eckhart Public Library

From: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Subject: **Important Information for Display Regarding a Final Determination**

Applicant Name: Nucor Fastener
Permit Number: 033-34368-00038

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	VHAUN 8/7/2014 Nucor Fastener 033-34368-00038 FINAL		Type of Mail: CERTIFICATE OF MAILING ONLY	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		

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		John Harden Nucor Fastener 6730 CR 60 Saint Joe IN 46785 (Source CAATS)	CONFIRMED DELIVERY									
2		Tom Miller VP / GM Nucor Fastener 6730 CR 60 Saint Joe IN 46785 (RO CAATS)										
3		Mr. Steve Christman NISWMD 2320 W 800 S, P.O. Box 370 Ashley IN 46705 (Affected Party)										
4		DeKalb County Commissioners 100 South Main Street Auburn IN 46706 (Local Official)										
5		Ms. Diane Leroy 303 N. Jackson St. Auburn IN 46706 (Affected Party)										
6		Mr. Barry Fordanish R#3 1480 CR 66 Auburn IN 46706 (Affected Party)										
7		Dekalb County Health Department 220 E 7th St #110 Auburn IN 46706 (Health Department)										
8		Daniel & Sandy Trimmer 15021 Yellow River Road Columbia City IN 46725 (Affected Party)										
9		Brown & Sons Fuel Co. P.O. Box 665 Kendallville IN 46755 (Affected Party)										
10		Mr. Marty K. McCurdy 2550 County Road 27 Waterloo IN 46793 (Affected Party)										
11		St. Joe Town Council P.O. Box 293 St. Joe IN 46785 (Local Official)										
12		Mr. Herbert Weidemann Environmental Resources Management (ERM) 1701 Golf Road, Suite 1-700 Rolling Meadows IL 60008-4242 (Consultant)										
13		Eckhart Public Library 603 South Jackson Street Auburn IN 46706 (Library)										
14												
15												

Total number of pieces Listed by Sender	Total number of Pieces Received at Post Office	Postmaster, Per (Name of Receiving employee)	The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is \$50,000 per piece subject to a limit of \$50, 000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is \$500. The maximum indemnity payable is \$25,000 for registered mail, sent with optional postal insurance. See Domestic Mail Manual R900, S913, and S921 for limitations of coverage on inured and COD mail. See International Mail Manual for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.
12			