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

**Michael R. Pence**
*Governor*

**Thomas W. Easterly**
*Commissioner*

| | |
|---|---|
| To: | Interested Parties |
| Date: | July 9, 2014 |
| From: | Matthew Stuckey, Chief<br>Permits Branch<br>Office of Air Quality |
| Source Name: | Ford Meter Box Company, Inc. |
| Permit Level: | Title V Significant Source Modification |
| Permit Number: | 169-34171-00003 |
| Source Location: | 775 Manchester Drive, Wabash, Indiana |
| Type of Action Taken: | Modification at an existing source |

# 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 34171.

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 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

*(continues on next page)*

If you wish to challenge this decision, IC 4-21.5-3 and IC 13-15-6-1 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

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

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

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

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

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**Thomas W. Easterly**
*Commissioner*

Mr. John Haney
Ford Meter Box Company, Inc.
775 Manchester Avenue
Wabash, Indiana 46992-1420

July 9, 2014

Re: 169-34171-00003
Significant Source Modification

Dear Mr. Haney:

Ford Meter Box, Inc. was issued Part 70 Operating Permit No. T169-25077-00003 on December 8, 2009, for a stationary captive brass foundry located at 775 Manchester Avenue, Wabash, Indiana 46992. An application to modify the source was received on February 10, 2014. Pursuant to the provisions of 326 IAC 2-7-10.5, a Significant Source Modification is hereby approved as described in the attached Technical Support Document.

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

(a) One (1) sand dryer, identified as SD-01, approved in 2014 for construction, with a maximum heat input capacity of 0.875 MMBtu/hr and a maximum throughput of 4.00 tons of sand per hour, using Baghouse "SD" for particulate emissions control, exhausting to stack "SD".

(b) One (1) cut-off saw, identified as SCF-06, permitted in 2014, with a maximum throughput of 2.00 tons of metal per hour, using Baghouse "U2" for particulate emissions control, exhausting so Stack "U2"; and

(c) One (1) cut-off saw, identified as SCF-07, approved in 2014 for construction, with a maximum throughput of 2.00 tons of metal per hour, using Baghouse "V" for particulate emissions control, exhausting to Stack "V".

(d) Natural gas-fired combustion sources with heat input equal to or less than ten (10) million British Thermal Units per hour, including, but not limited to:

(1) Furnace ancillary equipment, installed in 2012, including one (1) furnace burner and three (3) ladle heaters, each with a maximum heat input capacity of 4.50 MMBtu/hr, exhausting uncontrolled to atmosphere.

(2) Direct-fired make-up air units, exhausting uncontrolled to atmosphere, including, but not limited to:

(A) One (1) make-up air unit, installed prior to 1990, identified as AMM-04, with a maximum heat input capacity of 5.00 MMBtu/hr.

(B) One (1) make-up air unit, installed in 1991, identified as AMF-05, with a maximum heat input capacity of 3.00 MMBtu/hr.

(C) One (1) make-up air unit, installed in 1996, identified as AMM-03, with a maximum heat input capacity of 2.00 MMBtu/hr.

(3) Direct-fired infrared heaters, exhausting uncontrolled to atmosphere, including, but not limited to:

(A) Twenty (20) heaters, constructed between 1990 and 2014, each with a maximum heat input capacity of 0.0715 MMBtu/hr.

(e) Propane or liquefied petroleum gas, or butane-fired combustion sources with heat input equal to or less than six (6) million British Thermal Units per hour; including, but not limited to:

(1) One (1) water tester pump engine, identified as WTP-01, approved in 2014 for construction, combusting only LPG fuel, with a maximum power output rate of 18 HP, exhausting inside the building.

Under 40 CFR 60, NSPS Subpart JJJJ, this is considered an affected facility.

Under 40 CFR 63, NESHAP Subpart ZZZZ, this is considered an affected facility.

(f) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4,000 actual standard cubic feet per minute, including the following: deburring, buffing, polishing, abrasive blasting, pneumatic conveying, and woodworking operations, including, but not limited to:

(1) One (1) plastic pipe saw, identified as SPP-01, constructed in 1985, using Baghouse BH-01 as control, exhausting inside the building.

(2) One (1) tool room machining center, identified as MC-03, constructed in 2008, using Demister FMM-01 for particulate control, exhausting inside the building.

(3) One (1) pattern shop machining center, identified as MCF-01A, constructed in 1988, using Demister FMF-01 for particulate control, exhausting inside the building.

(4) One (1) pattern shop machining center, identified as MCF-02, constructed in 2004, using Demister FMF-03 for particulate control, exhausting inside the building.

(5) One (1) pattern shop machining center, identified as MCF-03, constructed in 2008, using Demister FMF-04 for particulate control, exhausting inside the building.

(g) Other activities with volatile organic compound (VOC) emissions equal to or less than 15 pounds per day, and activities with particulate matter (PM) emissions equal to or less than 25 pounds per day, including, but not limited to:

(1) Various machining and grinding operations, identified as machining "819", approved in 2014 for construction, with a combined maximum throughput of 0.125 tons per hour, using Baghouse "819" as control, exhausting to Stack "819".

(2) One (1) chip wringer, identified as CW-01, constructed in 2010, with a maximum capacity of 3,000 pounds per hour, using Demister FMM-10 for particulate control, exhausting inside the building.

(3) One (1) magnetic separator, identified as MS-03, constructed in 2010, with a maximum capacity of 1,000 pounds per hour, using Baghouse BH-06 as control, exhausting inside the building.

(4) One (1) portable vacuum system, identified as SW-03, constructed in 1990, using fabric filters as control, exhausting inside the building.

(5) One (1) central vacuum system, identified as SW-02, constructed in 1990, using fabric filters as control, exhausting inside the building.

(6) One (1) central vacuum system, identified as SW-06, constructed in 2000, using fabric filters as control, exhausting inside the building.

(7) One (1) sand pit, approved in 2014 for construction, identified as SP-01, with a maximum storage capacity of 22 tons and a maximum throughput of 4.00 tons per hour, exhausting uncontrolled to atmosphere.

(8) Three (3) sand storage silos, identified as NST-03, NST-04 and NST-05, approved in 2014 for construction, with a maximum storage capacity of 70 tons, each, and a maximum throughput of 0.205 tons per hours, each, using Bin Vent BV-03, BV-04, and BV-05, exhausting to Stack BS-03, Stack BV-04 and Stack BV-05, respectively.

(h) Asbestos abatement projects regulated by 326 IAC 14-10.

(i) On-site fire training approved by the IDEM.

The following construction conditions are applicable to the proposed modification:

General Construction Conditions

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

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

Effective Date of the Permit

3. Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

Commenced Construction

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

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

Approval to Construct

6. Pursuant to 326 IAC 2-7-10.5(h)(2), this Significant Source Modification authorizes the construction of the new emission unit(s), when the Significant Source Modification has been issued.

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

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

A copy of the permit is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/. For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and, refer to the IDEM's 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 Curtis Taylor of my staff, OAQ, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana, 46204-2251, or call at (800) 451-6027, and ask for Cutis Taylor or extension 4-5176 or dial (317) 234-5176.

Sincerely,

Jason R. Krawczyk, Section Chief
Permits Branch
Office of Air Quality

Attachments: Significant Source Modification and Technical Support Document
JRK/crt

cc: File - Wabash County
Wabash County Health Department
U.S. EPA, Region V
Compliance and Enforcement Branch

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*Commissioner*

# Significant Source Modification to a Part 70 Source

# OFFICE OF AIR QUALITY

## Ford Meter Box Company, Inc.
## 775 Manchester Drive
## Wabash, Indiana 46992

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

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17. This permit also addresses certain new source review requirements for existing equipment and is intended to fulfill the new source review procedures pursuant to 326 IAC 2-7-10.5, applicable to those conditions.

| Significant Source Modification No. 169-34171-00003 | |
|---|---|
| Issued by:<br><br>Jason R. Krawczyk<br>Section Chief, Permits Branch<br>Office of Air Quality | Issuance Date: July 9, 2014 |

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**Attachment A - 40 CFR 63, Subpart ZZZZZZ (National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Aluminum, Copper, and Other Nonferrous Foundries**

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

**Attachment C - 40 CFR 60, Subpart JJJJ (New Source Performance Standards for Stationary Spark Ignition Internal Combustion Engines)**

## 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 captive brass foundry.

| | |
|---|---|
| Source Address: | 775 Manchester Drive, Wabash, Indiana 46992 |
| Mailing Address: | PO Box 398, 775 Manchester Ave., Wabash, Indiana 46992-0398 |
| General Source Phone Number: | 260-269-3578 |
| SIC Code: | 3366, 3362 |
| County Location: | Wabash |
| Source Location Status: | Attainment for all criteria pollutants |
| Source Status: | Part 70 Operating Permit Program<br>Minor Source, under PSD and Emission Offset Rules<br>Minor Source, Section 112 of the Clean Air Act<br>Not 1 of 28 Source Categories |

### A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(14)]

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

**Charging, Melting, and Pouring/Cooling:**

(a) Unit #23, consisting of:

(1) Six (6) 5-ton each electric channel induction furnaces, two (2) constructed in 1970, one (1) constructed in 1973, two (2) constructed in 1975, one (1) constructed in 2004, each with a 1.25 tons per hour melt capacity;

(2) One (1) box induction furnace, constructed in 1996, with a 0.695 ton per hour melt capacity;

(3) One (1) crucible induction furnace, constructed in 1993, with a 0.53 ton per hour melt capacity; and

(4) Pouring/Casting operations associated with seven (7) molding lines, identified as #1 Handline, #1 Harrison, #2 Harrison, #1 Sinto, #2 Sinto, #3 Sinto, and #4 Sinto, constructed in 1971, 1970, 1988, 1997, 1998, 2000, and 2004, respectively.

Due to power supply limitations the box induction furnace and crucible induction furnace cannot operate simultaneously. The total maximum melt capacity is 8.195 tons per hour. Metallic fume emissions from melting and pouring, including transfer points, controlled by nine (9) baghouse modules, identified as “UU” with a common inlet but nine (9) individual stack discharges. [40 CFR 63, Subpart ZZZZZZ]

**Shakeout, Sand Handling, Mold Making, and Core Making:**

(b) Shakeout and Sand Handling from:

(1) Unit #6, including the #1 Handline and Harrison sand tanks plus the shakeout and conveyor operations for four (4) mold lines, identified as #1 Handline, #1 Harrison, #2 Harrison, and #4 Sinto, constructed in 1970 and modified in 2004, with a maximum combined throughput of 63 tons per hour, equipped with a baghouse which returns captured sand particulate back to the system, exhausting to Stack "H";

(2) Unit #20 sand system and shakeout, for three (3) mold lines, identified as #1 Sinto, #2 Sinto, and #3 Sinto, constructed in 1973 and modified in 1997, with a maximum combined throughput of 45 tons per hour, equipped with a baghouse which returns the captured sand particulate back to the system, exhausting to Stack "KK";

(b1) One (1) sand dryer and screener, identified as SD-01, approved in 2014 for construction, with a maximum heat input capacity of 2.00 MMBtu/hr and a maximum throughput of 4.00 tons of sand per hour, using Baghouse "SD" for particulate emissions control, exhausting to stack "SD".

Under 40 CFR 60, Subpart UUU, sand dryer (SD-01) is considered an affected facility.

(c) One (1) sand treatment and brass reclaim operations, identified as Unit #13, constructed in 1980, with a maximum throughput of 15 tons per hour, controlled by Baghouse ”T”; and

(d) Core room ventilation, identified as Unit #19, constructed in 1970 and revised in 1991, for a maximum facility melt throughput of 8.195 tons per hour, including ventilation of thirteen (13) natural gas-fired core making units with a total maximum heat input capacity of 2.464 million British Thermal Units per hour, and a sand throughput of 2.068 tons per hour.

**Machining, Grinding, and Finishing:**

(e) One (1) Iron Room for cast iron grinding, boring, and tapping operations, identified as Unit #5, constructed in 1973 and approved for modification in 2013, with a maximum throughput of 0.78 tons per hour, using portable fabric filters as control, exhausting inside the building;

(f) One (1) Pangborn 12GN steel shot blast cleaner, identified as, Unit #11, constructed in 1978, with a maximum throughput of 2.73 tons per hour, using Baghouse “Q” for particulate emissions control;

(g) One (1) Pangborn 6GN steel shot blast cleaner, identified as Unit #12, constructed in 1970, with a maximum throughput of 1.37 tons per hour, using Baghouse “S” for particulate emissions control;

(h) One (1) continuous flow steel shot blast cleaner, identified as Unit #14, constructed in 1970, for removing sand and internal cores from castings, with a maximum casting throughput of 8.195 tons per hour, using Baghouse “U” for particulate emissions control;

(i) One (1) foundry grinding and cut-off operations, identified as Unit #15, constructed in 1970, with a maximum throughput of 8.195 tons per hour, using Baghouse “V” for particulate emissions control;

(j) Various machining, grinding, and polishing operations, identified as Unit #16, constructed in 1980, with a maximum throughput of 0.78 tons per hour, using Baghouse “W” for capturing brass chips to be recycled as well as for controlling dust emissions. The exhaust gas is vented through a drop box to reduce particulate loading and then to the baghouse;

(k) Various machining, grinding, and polishing operations, identified as Unit #17, constructed in 1981, with a maximum throughput of 2.13 tons per hour, using Baghouse “X” for capturing brass chips to be recycled as well as for controlling dust emissions. The exhaust gas is vented through a drop box to reduce particulate loading and then to the baghouse;

(l) Various machining, grinding, and polishing operations, identified as Unit #18, constructed in 1980, with a maximum throughput of 0.90 tons per hour, using Baghouse “Y” for capturing steel particulate;

(m) Various machining, grinding, and polishing operations, identified as Unit #26, constructed in 1999 and approved for modification in 2013, with a maximum throughput of 2.238 tons per hour, using Baghouse “BC” for capturing brass chips to be recycled as well as for controlling dust emissions. The exhaust gas is vented through a drop box to reduce particulate loading and then to the baghouse;

(n) One (1) shot blast machine, constructed in 2009, identified as Unit #29, with a maximum capacity of 2.0 tons per hour of no-lead brass castings, and using a cartridge filter for particulate control (Note: this unit is used as an alternative to Unit #14 when no-lead brass is being processed. The combined maximum capacity of both units is 8.195 tons per hour); and

(o) One (1) cut-off saw, approved for constructed in 2009, identified as Unit #30, with a maximum capacity of 2.0 tons per hour of no-lead brass castings, and using a cartridge filter for particulate control (Note: this unit is used as an alternative to Unit #15 when no-lead brass is being processed. The combined maximum capacity of both units is 8.195 tons per hour);

(o1) One (1) cut-off saw, identified as SCF-06, constructed in 2013, with a maximum throughput of 2.00 tons of metal per hour, using Baghouse "U2" for particulate emissions control, exhausting so Stack "U2"; and

(o2) One (1) cut-off saw, identified as SCF-07, approved in 2014 for construction, with a maximum throughput of 2.00 tons of metal per hour, using Baghouse "V" for particulate emissions control, exhausting to Stack "V".

**Combustion Units:**

(p) One (1) 100 KW spark ignition internal combustion natural gas-fired emergency generator, constructed in 2007, used to generate electric power, with a maximum power output rate of 134.1 horsepower, firing natural gas only, using no control and exhausting to the atmosphere; [40 CFR 63, Subpart ZZZZ] and

(q) Two (2) diesel fuel-fired 423 maximum horsepower (2.9 million British thermal Units per hour) emergency generators, installed in 1992. [40 CFR 63, Subpart ZZZZ]

**Surface Coating Operations:**

(r) One (1) Binks Teflon spray coating booth, identified as Unit #21, installed in 1980, with a maximum rate of 121.7 units per hour, using a semi-automatic air atomization application

method for coating brass balls, using paper air filters for overspray control, and exhausting to Stack “OO”;

(s) One (1) nut coating operation for coating fittings, identified as Unit #27, installed in 1996, with a maximum coating rate of 1,960 units per hour, utilizing a spin coating application system; and

(t) One (1) paint booth for miscellaneous painting and gluing activities, using brush, roller, or aerosol spray applications, with a maximum capacity of 3.75 pounds of coating per hour, using dry filters for particulate control, constructed in 2008.

**Reclamation Unit:**

(u) One (1) Didion rotary metal reclaimer, approved for construction in 2013, with a maximum throughput of 2.00 tons of metal per hour, using Baghouse “G” for particulate emissions control, exhausting to Stack “G.”

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

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

(a) One (1) tool grinding operation, identified as Unit #8, vented through Baghouse "C";

(b) Machining operations vented through Baghouse “AB”;

(c) Three (3) natural gas-fired chip dryers, each with a maximum heat input of 0.625 million British Thermal Units per hour, each with a maximum throughput of 50 pounds of volatiles per hour, and each equipped (as integral part of the equipment as determined in F169-5469-00003, issued on December 13, 1996) with a 0.425 million British Thermal Units per hour thermal oxidizer, exhausting to Stack “TT”, Stack “VV” and Stack "32", respectively;

(d) Natural gas-fired combustion sources with heat input equal to or less than ten (10) million British Thermal Units per hour, including, but not limited to:

(1) Two (2) natural gas fired boilers for building heating, identified as Units #1 and #2, installed in 2009, each with a maximum heat input capacity of 7.325 MMBtu/hr, and exhausting to Stack "A"; [326 IAC 6-2-4]

(2) Furnace ancillary equipment, installed in 2012, including one (1) furnace burner and three (3) ladle heaters, each with a maximum heat input capacity of 4.50 MMBtu/hr, exhausting uncontrolled to atmosphere.

(3) Direct-fired make-up air units, exhausting uncontrolled to atmosphere, including, but not limited to:

(i) One (1) make-up air unit, installed prior to 1990, identified as AMM-04, with a maximum heat input capacity of 5.00 MMBtu/hr.

(ii) One (1) make-up air unit, installed in 1991, identified as AMF-05, with a maximum heat input capacity of 3.00 MMBtu/hr.

(iii) One (1) make-up air unit, installed in 1996, identified as AMM-03, with a maximum heat input capacity of 2.00 MMBtu/hr.

(4) Direct-fired infrared heaters, exhausting uncontrolled to atmosphere, including, but not limited to:

(i) Twenty (20) heaters, constructed between 1990 and 2014, each with a maximum heat input capacity of 0.0715 MMBtu/hr.

(e) Propane or liquefied petroleum gas, or butane-fired combustion sources with heat input equal to or less than six (6) million British Thermal Units per hour; including, but not limited to:

(1) One (1) water tester pump engine, identified as WTP-01, approved in 2014 for construction, combusting only LPG fuel, with a maximum power output rate of 18 HP, exhausting inside the building.

Under 40 CFR 60, Subpart JJJJ, WTP-01 is considered an affected facility.

Under 40 CFR 63, Subpart ZZZZ, WTP-01 is considered an affected facility.

(f) Combustion source flame safety purging on startup;

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

(h) Storage tanks with capacity less than or equal to 1,000 gallons and annual throughput less than 12,000 gallons;

(i) Vessels storing lubricating oils, hydraulic oils, machining oils, and coolant fluids;

(j) Refractory storage not requiring air pollution control equipment;

(k) Application of oils, greases, lubricants or other nonvolatile materials applied as temporary protective coatings;

(l) Machining where an aqueous cutting coolant continuously floods the machining interface;

(m) Degreasing operations, consisting of cold cleaner degreasers with remote reservoirs that were existing as of January 1, 1980, that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6;

(n) Cleaners and solvents with low vapor pressure and with a combined usage of less than 145 gallons per 12 months;

(o) Brazing equipment, cutting torch, soldering equipment and welding equipment not resulting in HAP emissions;

(p) Closed loop heating and cooling systems;

(q) Cutting 200.00 linear feet or less of one inch (1") plate or equivalent;

(r) Using 80 tons or less of welding consumables;

(s) Operations using aqueous solutions with less than 1 percent of VOCs excluding HAPs;

(t) Water-based adhesives that are less than or equal to 5 percent VOCs by volume excluding HAPs;

(u) Quenching operations used with heat treating processes;

(v) Replacement or repair of electrostatic precipitators, bags in baghouse and filters in other air filtration equipment;

(w) Heat exchanger cleaning and repair;

(x) Paved and unpaved roads and parking lots with public access; [326 IAC 6-4]

(y) Purging of gas lines and vessels not associated with production process;

(z) Equipment used to collect any material that might be released during a malfunction, process upset, or spill cleanup;

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

(bb) One (1) 100 HP four-stroke rich burn diesel-fired emergency fire pump, installed in January of 1980, using no control and exhausting to the atmosphere [40 CFR 63, Subpart ZZZZ];

(cc) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4,000 actual standard cubic feet per minute, including the following: deburring, buffing, polishing, abrasive blasting, pneumatic conveying, and woodworking operations, including, but not limited to:

(1) One (1) plastic pipe saw, identified as SPP-01, constructed in 1985, using Baghouse BH-01 as control, exhausting inside the building.

(2) One (1) tool room machining center, identified as MC-03, constructed in 2008, using Demister FMM-01 for particulate control, exhausting inside the building.

(3) One (1) pattern shop machining center, identified as MCF-01A, constructed in 1988, using Demister FMF-01 for particulate control, exhausting inside the building.

(4) One (1) pattern shop machining center, identified as MCF-02, constructed in 2004, using Demister FMF-03 for particulate control, exhausting inside the building.

(5) One (1) pattern shop machining center, identified as MCF-03, constructed in 2008, using Demister FMF-04 for particulate control, exhausting inside the building.

(dd) Mold release agent using low volatile products;

(ee) A laboratory as defined in 326 IAC 2-7-1(20)(C);

(ff) Other activities with volatile organic compound (VOC) emissions equal to or less than 15 pounds per day, and activities with particulate matter (PM) emissions equal to or less than 25 pounds per day, including, but not limited to:

(1) Various machining and grinding operations, identified as machining "819", approved in 2014 for construction, with a combined maximum throughput of 0.125 tons per hour, using Baghouse "819" as control, exhausting to Stack "819".

(2) One (1) chip wringer, identified as CW-01, constructed in 2010, with a maximum capacity of 3,000 pounds per hour, using Demister FMM-10 for particulate control, exhausting inside the building.

(3) One (1) magnetic separator, identified as MS-03, constructed in 2010, with a maximum capacity of 1,000 pounds per hour, using Baghouse BH-06 as control, exhausting inside the building.

(4) One (1) portable vacuum system, identified as SW-03, constructed in 1990, using fabric filters as control, exhausting inside the building.

(5) One (1) central vacuum system, identified as SW-02, constructed in 1990, using fabric filters as control, exhausting inside the building.

(6) One (1) central vacuum system, identified as SW-06, constructed in 2000, using fabric filters as control, exhausting inside the building.

(7) One (1) sand pit, approved in 2014 for construction, identified as SP-01, with a maximum storage capacity of 22 tons and a maximum throughput of 4.00 tons per hour, exhausting uncontrolled to atmosphere.

(8) Five (5) sand storage silos, identified as NST-03, NST-04, NST-05, NST-06, and NST-07, approved in 2014 for construction, with a maximum storage capacity of 70 tons, each, and a maximum throughput of 0.205 tons per hours, each, using Bin Vent BV-03, BV-04, BV-05, BV-06, and BV-07, exhausting to Stack BV-03, Stack BV-04, Stack BV-05, Stack BV-06, and Stack BV-07, respectively.

(gg) One (1) parts washer with no VOC emissions exhausting through stack/vent “BD"; and

(hh) One (1) powder coating booth, used for epoxy coating, with a maximum capacity of eighteen (18) units per hour, using an integral cartridge filter for particulate capture and reuse, constructed in 1993 [326 IAC 6-3-2].

(ii) One (1) furnace liner rebuild, identified as Inductor Rebuild Area, constructed in 1970, with a maximum capacity of 3 liners per year, using Baghouse BH-04 as control, exhausting inside the building.

(jj) Asbestos abatement projects regulated by 326 IAC 14-10.

(kk) On-site fire training approved by the IDEM.

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

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

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

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

## SECTION B GENERAL CONDITIONS

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

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

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

(a) This permit, T169-25077-00003, 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. The submittal by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34). Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.

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

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

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

(b) One (1) certification shall be included, using the attached Certification Form, or its equivalent, with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.

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

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

(a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. The initial certification shall cover the time period from the date of final permit issuance through December 31 of the same year. All subsequent 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 the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

B.10 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)][326 IAC 2-7-6(1) and (6)][326 IAC 1-6-3]

(a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) within 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 the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions or potential to emit. The PMPs do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

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

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

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

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

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

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

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

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance and Enforcement Branch), or
Telephone Number: 317-233-0178 (ask for 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 the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

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

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

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

(e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4(c)(9) be revised in response to an emergency.

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

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

(h) The Permittee shall include all emergencies in the Quarterly Deviation and Compliance Monitoring Report**.** Any emergencies that have been previously reported pursuant to paragraph (b)(5) of this condition and certified by a "responsible official" need only referenced by the date of the original report.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(a) All terms and conditions of permits established prior to T169-25077-00003 and issued pursuant to permitting programs approved into the state implementation plan have been either:

(1) incorporated as originally stated,

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

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

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

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

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

B.15 Deviations from Permit Requirements and Conditions [326 IAC 2-7-5(3)(C)(ii)]

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

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

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

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

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

B.16 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-7-5(6)(C)][326 IAC 2-7-8(a)][326 IAC 2-7-9]

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

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

(1) That this permit contains a material mistake.

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

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

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

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

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

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

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
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 in writing by IDEM, OAQ any additional information identified as being needed to process the application.

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

(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 shall be certified by the "responsible official" as defined by 326 IAC 2-7-1(34).

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

B.19 Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-7-5(8)][326 IAC 2-7-12(b)(2)]

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

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

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

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

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

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

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

(4) The Permittee notifies the:

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

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

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

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

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

(3) Any change in emissions; and

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

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

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

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

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

B.21 Source Modification Requirement [326 IAC 2-7-10.5]

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

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

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

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

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

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

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

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

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

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

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

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

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

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

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

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

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

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

B.25 Credible Evidence [326 IAC 2-7-5(3)][326 IAC 2-7-6][62 FR 8314] [326 IAC 1-1-6]

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

## SECTION C SOURCE OPERATION CONDITIONS

Entire Source

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

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

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

C.2 Opacity [326 IAC 5-1]

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

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

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

C.3 Open Burning [326 IAC 4-1] [IC 13-17-9]

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

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

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

C.5 Fugitive Dust Emissions [326 IAC 6-4]

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

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

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

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

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

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

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

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

(A) Asbestos removal or demolition start date;

(B) Removal or demolition contractor; or

(C) Waste disposal site.

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

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

All required notifications shall be submitted to:

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

(e) Procedures for Asbestos Emission Control
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.

(f) Demolition and Renovation
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).

(g) Indiana 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) All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

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

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

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

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

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

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

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)]

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

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

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

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

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, 40 CFR 60, Appendix B, 40 CFR 63, or other approved methods as specified in this permit.

C.12 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.

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

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

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

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

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

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

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

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

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

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

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

C.14 Risk Management Plan [326 IAC 2-7-5(12)] [40 CFR 68]

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

C.15 Response to Excursions or Exceedances [326 IAC 2-7-5] [326 IAC 2-7-6]

(a) Upon detecting an excursion or exceedance, the Permittee shall restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.

(b) The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Corrective actions may include, but are not limited to, the following:

(1) initial inspection and evaluation;

(2) recording that operations returned to normal without operator action (such as through response by a computerized distribution control system); or

(3) any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.

(c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:

(1) monitoring results;

(2) review of operation and maintenance procedures and records; 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 maintain the following records:

(1) monitoring data;

(2) monitor performance data, if applicable; and

(3) corrective actions taken.

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

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.

(b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.

(c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The response action documents submitted pursuant to this condition do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

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

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

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

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

C.18 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. These records shall be physically present

or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

(b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance or ninety (90) days of initial start-up, whichever is later.

C.19 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. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

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

Indiana Department of Environmental Management
Compliance 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) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(e) The first report shall cover the period commencing on the date of issuance of this permit or the date of initial start-up, whichever is later, and ending on the last day of the reporting period. Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit, “calendar year” means the twelve (12) month period from January 1 to December 31 inclusive.

**Stratospheric Ozone Protection**

C.20 Compliance with 40 CFR 82 and 326 IAC 22-1

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

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

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

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

## SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

**Emissions Unit Description:**

**Charging, Melting, and Pouring/Cooling:**

(a) Unit #23, consisting of:

(1) Six (6) 5-ton each electric channel induction furnaces, two (2) constructed in 1970, one (1) constructed in 1973, two (2) constructed in 1975, one (1) constructed in 2004, each with a 1.25 tons per hour melt capacity;

(2) One (1) box induction furnace, constructed in 1996, with a 0.695 ton per hour melt capacity;

(3) One (1) crucible induction furnace, constructed in 1993, with a 0.53 ton per hour melt capacity; and

(4) Pouring/Casting operations associated with seven (7) molding lines, identified as #1 Handline, #1 Harrison, #2 Harrison, #1 Sinto, #2 Sinto, #3 Sinto, and #4 Sinto, constructed in 1971, 1970, 1988, 1997, 1998, 2000, and 2004, respectively.

Due to power supply limitations the box induction furnace and crucible induction furnace cannot operate simultaneously. The total maximum melt capacity is 8.195 tons per hour. Metallic fume emissions from melting and pouring, including transfer points, controlled by nine (9) baghouse modules, identified as “UU” with a common inlet but nine (9) individual stack discharges. [40 CFR 63, Subpart ZZZZZZ]

**Shakeout, Sand Handling, Mold Making, and Core Making:**

(b) Shakeout and Sand Handling from:

(1) Unit #6, including the #1 Handline and Harrison sand tanks plus the shakeout and conveyor operations for four (4) mold lines, identified as #1 Handline, #1 Harrison, #2 Harrison, and #4 Sinto, constructed in 1970 and modified in 2004, with a maximum combined throughput of 63 tons per hour, equipped with a baghouse which returns captured sand particulate back to the system, exhausting to Stack "H";

(2) Unit #20 sand system and shakeout, for three (3) mold lines, identified as #1 Sinto, #2 Sinto, and #3 Sinto, constructed in 1973 and modified in 1997, with a maximum combined throughput of 45 tons per hour, equipped with a baghouse which returns the captured sand particulate back to the system, exhausting to Stack "KK";

(b1) One (1) sand dryer and screener, identified as SD-01, approved in 2014 for construction, with a maximum heat input capacity of 0.875 MMBtu/hr and a maximum throughput of 4.00 tons of sand per hour, using Baghouse "SD" for particulate emissions control, exhausting to stack "SD".

Under 40 CFR 60, Subpart UUU, sand dryer (SD-01) is considered an affected facility.

(c) One (1) sand treatment and brass reclaim operations, identified as Unit #13, constructed in 1980, with a maximum throughput of 15 tons per hour, controlled by Baghouse ”T”; and

(d) Core room ventilation, identified as Unit #19, constructed in 1970 and revised in 1991, for a maximum facility melt throughput of 8.195 tons per hour, including ventilation of thirteen (13) natural gas-fired core making units with a total maximum heat input capacity of 2.464 million British Thermal Units per hour, and a sand throughput of 2.068 tons per hour.

**Machining, Grinding, and Finishing:**

(e) One (1) Iron Room for cast iron grinding, boring, and tapping operations, identified as Unit #5, constructed in 1973 and approved for modification in 2013, with a maximum throughput of 0.78 tons per hour, using portable fabric filters as control, exhausting inside the building;

(f) One (1) Pangborn 12GN steel shot blast cleaner, identified as, Unit #11, constructed in 1978, with a maximum throughput of 2.73 tons per hour, using Baghouse “Q” for particulate emissions control;

(g) One (1) Pangborn 6GN steel shot blast cleaner, identified as Unit #12, constructed in 1970, with a maximum throughput of 1.37 tons per hour, using Baghouse “S” for particulate emissions control;

(h) One (1) continuous flow steel shot blast cleaner, identified as Unit #14, constructed in 1970, for removing sand and internal cores from castings, with a maximum casting throughput of 8.195 tons per hour, using Baghouse “U” for particulate emissions control;

(i) One (1) foundry grinding and cut-off operations, identified as Unit #15, constructed in 1970, with a maximum throughput of 8.195 tons per hour, using Baghouse “V” for particulate emissions control;

(j) Various machining, grinding, and polishing operations, identified as Unit #16, constructed in 1980, with a maximum throughput of 0.78 tons per hour, using Baghouse “W” for capturing brass chips to be recycled as well as for controlling dust emissions. The exhaust gas is vented through a drop box to reduce particulate loading and then to the baghouse;

(k) Various machining, grinding, and polishing operations, identified as Unit #17, constructed in 1981, with a maximum throughput of 2.13 tons per hour, using Baghouse “X” for capturing brass chips to be recycled as well as for controlling dust emissions. The exhaust gas is vented through a drop box to reduce particulate loading and then to the baghouse;

(l) Various machining, grinding, and polishing operations, identified as Unit #18, constructed in 1980, with a maximum throughput of 0.90 tons per hour, using Baghouse “Y” for capturing steel particulate;

(m) Various machining, grinding, and polishing operations, identified as Unit #26, constructed in 1999 and approved for modification in 2013, with a maximum throughput of 2.238 tons per hour, using Baghouse “BC” for capturing brass chips to be recycled as well as for controlling dust emissions. The exhaust gas is vented through a drop box to reduce particulate loading and then to the baghouse;

(n) One (1) shot blast machine, constructed in 2009, identified as Unit #29, with a maximum capacity of 2.0 tons per hour of no-lead brass castings, and using a cartridge filter for particulate control (Note: this unit is used as an alternative to Unit #14 when no-

lead brass is being processed. The combined maximum capacity of both units is 8.195 tons per hour); and

(o) One (1) cut-off saw, approved for constructed in 2009, identified as Unit #30, with a maximum capacity of 2.0 tons per hour of no-lead brass castings, and using a cartridge filter for particulate control (Note: this unit is used as an alternative to Unit #15 when no-lead brass is being processed. The combined maximum capacity of both units is 8.195 tons per hour).

(o1) One (1) cut-off saw, identified as SCF-06, constructed in 2013, with a maximum throughput of 2.00 tons of metal per hour, using Baghouse "U2" for particulate emissions control, exhausting so Stack "U2"; and

(o2) One (1) cut-off saw, identified as SCF-07, approved in 2014 for construction, with a maximum throughput of 2.00 tons of metal per hour, using Baghouse "V" for particulate emissions control, exhausting to Stack "V".

**Reclamation Unit:**

(u) One (1) Didion rotary metal reclaimer, approved for construction in 2013, with a maximum throughput of 2.00 tons of metal per hour, using Baghouse “G” for particulate emissions control, exhausting to Stack “G.”

(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 Secondary Metal Production [326 IAC 2-2]

Each of the furnaces, identified as part of Unit #23, shall melt only clean charge, customer returns, or internal scrap. Violation of this condition would cause the source to be considered a secondary metal production facility for purposes of 326 IAC 2-2, Prevention of Significant Deterioration.

Compliance with the above condition, combined with Condition D.1.2 shall render 326 IAC 2-2 (PSD) not applicable.

D.1.2 PSD Minor Limit [326 IAC 2-2]

In order to make the requirements of 326 IAC 2-2 (PSD) not applicable, the PM, $PM_{10}$ and $PM_{2.5}$ emissions from the Didion Rotary Metal Reclaimer, Units #6, #11 through #16, #18, #20, #23, #26, #29, and #30 shall not exceed the emissions limits listed in the table below:

| Emission Unit | PM Emission Limit (lb/hr) | $PM_{10}$ Emission Limit (lb/hr) | $PM_{2.5}$ Emission Limit (lb/hr) |
|---|---|---|---|
| Unit #23: Furnace Charging, Melting and Pouring | 5.71 | 5.71 | 5.71 |
| Unit #6: #1 Handline and Harrison Sand Tanks and Shakeout and Conveyor Operations for #1 Handline, #1 Harrison, #2 Harrison, #4 Sinto Mold Lines | 3.42 | 3.42 | 3.42 |
| Unit #20: Shakeout and Sand Handling for #1, #2, #3 Sintos | 3.42 | 3.42 | 3.42 |
| Unit #13: Sand Treatment and Brass Reclaim Operations | 2.28 | 2.28 | 2.28 |
| Didion Rotary Metal Reclaimer | 1.14 | 1.14 | 1.14 |
| Unit #11: Shot Blasting | 1.14 | 1.14 | 1.14 |
| Unit #12: Shot Blasting | 0.46 | 0.46 | 0.46 |

| Emission Unit | PM Emission Limit (lb/hr) | $PM_{10}$ Emission Limit (lb/hr) | $PM_{2.5}$ Emission Limit (lb/hr) |
|---|---|---|---|
| Unit #14: Shot Blasting | 3.42 | 3.42 | 3.42 |
| Unit #15: Grinding and Cut-Off | 3.42 | 3.42 | 3.42 |
| Unit #16: Machining, Grinding, and Polishing | 0.68 | 0.68 | 0.68 |
| Unit #18: Machining, Grinding, and Polishing | 0.68 | 0.68 | 0.68 |
| Unit #26: Machining, Grinding, and Polishing | 2.28 | 2.28 | 2.28 |
| Unit #29: Shot blast machine | 1.14 | 1.14 | 1.14 |
| Unit #30: Cut-off saw | 1.14 | 1.14 | 1.14 |

Compliance with the above limits, combined with Condition D.1.1 and the potential to emit PM, $PM_{10}$ and $PM_{2.5}$ from other emission units at the source, shall limit the emissions of PM, $PM_{10}$ and $PM_{2.5}$ from the entire source to less than 250 tons per twelve (12) consecutive month period each and render 326 IAC 2-2 not applicable.

D.1.3 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 the Didion Rotary Metal Reclaimer, Units #5, #6, #11 through #16, #18, #19, #20, #23, #26, #29, #30**,** SD-01, SCF-06, SCF-07, SW-02, and SW-06 shall not exceed the pounds per hour emission limitations when operating at maximum process weight rates as specified in the table below:

| Emission Unit | Process Weight Rate (ton/hr) | 326 IAC 6-3-2 Allowable Particulate Emission Limit (lb/hr) |
|---|---|---|
| Unit #23: Furnace Charging, Melting and Pouring | 8.195 | 16.78 |
| Unit #6: #1 Handline and Harrison Sand Tanks and Shakeout and Conveyor Operations for #1 Handline, #1 Harrison, #2 Harrison, #4 Sinto Mold Lines | 67.10 | 47.36 |
| Unit #20: Shakeout and Sand Handling for #1, #2, #3 Sintos | 49.10 | 44.41 |
| Unit #13: Sand Treatment and Brass Reclaim Operations | 15.00 | 25.16 |
| Unit #19: Core room Ventilation | 10.263 | 19.51 |
| Didion Rotary Metal Reclaimer | 2.00 | 6.52 |
| Unit #5: Iron Room | 0.78 | 3.47 |
| Unit #11: Shot Blasting | 2.73 | 8.04 |
| Unit #12: Shot Blasting | 1.37 | 5.05 |
| Unit #14: Shot Blasting | 8.195 | 16.78 |
| Unit #15: Grinding and Cut-Off | 8.195 | 16.78 |
| Unit #16: Machining, Grinding, and Polishing | 0.78 | 3.47 |
| Unit #18: Machining, Grinding, and Polishing | 0.90 | 3.82 |
| Unit #26: Machining, Grinding, and Polishing | 2.238 | 7.03 |
| Unit #29: Shot blast machine | 2.00 | 6.52 |
| Unit #30: Cut-off saw | 2.00 | 6.52 |
| Sand Dryer and Screener (SD-01) | 4.00 | 10.38 |
| Cut-Off Saw (SCF-06) | 2.00 | 6.52 |
| Cut-Off Saw (SCF-07) | 2.00 | 6.52 |
| Central Vacuum System (SW-02) | 12.00 | 21.67 |

| Emission Unit | Process Weight Rate (ton/hr) | 326 IAC 6-3-2 Allowable Particulate Emission Limit (lb/hr) |
|---|---|---|
| Central Vacuum System (SW-06) | 12.00 | 21.67 |

The pounds per hour limitations were calculated with the equations below:

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

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

(b) 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 where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

D.1.4 Hazardous Air Pollutants (Lead) [326 IAC 2-4.1][326 IAC 2-2]

In order to render the requirements of 326 IAC 2-4.1 and 326 IAC 2-2 not applicable, the lead emissions from the Didion Rotary Metal Reclaimer, Units #6, #11 through #16, #18, #20, #23, #26, #29, and #30 shall not exceed the emissions limits listed in the table below:

| Emission Unit | Lead Emission Limit (lb/hr) |
|---|---|
| Unit #23: Furnace Charging, Melting and Pouring | 0.548 |
| Unit #6: #1 Handline and Harrison Sand Tanks and Shakeout and Conveyor Operations for #1 Handline, #1 Harrison, #2 Harrison, #4 Sinto Mold Lines | 0.034 |
| Unit #20: Shakeout and Sand Handling for #1, #2, #3 Sintos | 0.034 |
| Unit #13: Sand Treatment and Brass Reclaim Operations | 0.009 |
| Didion Rotary Metal Reclaimer | 0.012 |
| Unit #11: Shot Blasting | 0.119 |
| Unit #12: Shot Blasting | 0.059 |
| Unit #14: Shot Blasting | 0.018 |
| Unit #15: Grinding and Cut-Off | 0.342 |
| Unit #16: Machining, Grinding, and Polishing | 0.056 |
| Unit #18: Machining, Grinding, and Polishing | 0.064 |
| Unit #26: Machining, Grinding, and Polishing | 0.306 |
| Unit #29: Shot blast machine | 0.023 |
| Unit #30: Cut-off saw | 0.023 |

Compliance with the above limits, combined with the potential to emit HAP from other emission units at this source, shall limit the lead from the entire source to less than ten (10) tons per twelve (12) consecutive month period and the total HAPs from the entire source to less than twenty-five (25) tons per twelve (12) consecutive month period and render 326 IAC 2-4.1 (Major Source of Hazardous Air Pollutants) not applicable. Compliance with the above limits shall also render the requirements of 326 IAC 2-2 (PSD) not applicable.

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

A Preventive Maintenance Plan (PMP) is required for these facilities and their associated control device. Section B – Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

**Compliance Determination Requirements**

D.1.6 Particulate Control

(a) In order to comply with Conditions D.1.2, D.1.3, and D.1.4, the baghouses and cartridge filters for particulate control shall be in operation and controlling emissions from the Didion Rotary Metal Reclaimer, Units #5, #6, #11 through #18, #20, #23, #26, #29, and #30 at all times these units are in operation.

(b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

D.1.7 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

In order to demonstrate the compliance status with Conditions D.1.2, D.1.3, and D.1.4, the Permittee shall:

(a) perform PM, $PM_{10}$, $PM_{2.5}$ and lead testing on the stack of Baghouse UU controlling emissions from Unit #23, utilizing methods approved by the Commissioner. These tests shall be repeated at least once every five years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. $PM_{10}$ and $PM_{2.5}$ contain filterable and condensable PM.

(b) perform PM, $PM_{10}$, $PM_{2.5}$ and lead testing on the stack of Baghouse H controlling emissions from Unit #6, utilizing methods approved by the Commissioner. These tests shall be repeated at least once every five years from the date of the most recent valid compliance demonstration on one (1) emission unit from Group A, as specified in the table below. Testing on any individual emission unit shall not be repeated until each emission unit in Group A has been tested. $PM_{10}$ and $PM_{2.5}$ contain filterable and condensable PM.

| Group A Emission Units | |
|---|---|
| Emission Unit | Baghouse |
| Unit #6: #1 Handline and Harrison Sand Tanks and Shakeout and Conveyor Operations for #1 Handline, #1 Harrison, #2 Harrison, #4 Sinto Mold Lines | H |
| Unit #20: Shakeout and Sand Handling for #1, #2, #3 Sintos | KK |
| Unit #13: Sand Treatment and Brass Reclaim Operations | T |

(c) perform PM, $PM_{10}$, $PM_{2.5}$ and lead testing on the stack of Baghouse G controlling emissions from Didion Rotary Metal Reclaimer, within sixty (60) days of reaching maximum capacity but no later than one hundred and eighty (180) days after initial startup, utilizing methods approved by the Commissioner. These tests shall be repeated at least once every five years from the date of the most recent valid compliance

demonstration on one (1) emission unit from Group B, as specified in the table below. Testing on any individual emission unit shall not be repeated until each emission unit in Group B has been tested. $PM_{10}$ and $PM_{2.5}$ contain filterable and condensable PM.

| Group B Emission Units | |
|---|---|
| Emission Unit | Baghouse |
| Unit #15: Grinding and Cut-Off | V |
| Didion Rotary Metal Reclaimer | G |
| Unit #16: Machining, Grinding, and Polishing | W |
| Unit #18: Machining, Grinding, and Polishing | Y |
| Unit #26: Machining, Grinding, and Polishing | BC |
| Unit #30: Cut-off saw | Unit #30 cartridge filter |

(d) perform PM, $PM_{10}$, $PM_{2.5}$ and lead testing on the stack of Baghouse U controlling emissions from Unit #14, utilizing methods approved by the Commissioner. These tests shall be repeated at least once every five years from the date of the most recent valid compliance demonstration on one (1) emission unit from Group C, as specified in the table below. Testing on any individual emission unit shall not be repeated until each emission unit in Group C has been tested. $PM_{10}$ and $PM_{2.5}$ contain filterable and condensable PM.

| Group C Emission Units | |
|---|---|
| Emission Unit | Baghouse |
| Unit #14: Shot Blasting | U |
| Unit #11: Shot Blasting | Q |
| Unit #12: Shot Blasting | S |
| Unit #29: Shot blast machine | Unit #29 cartridge filter |

(e) All testing shall be conducted in accordance with Section C - Performance Testing.

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

D.1.8 Baghouse Compliance Monitoring

(a) Except for Baghouse UU, for baghouses and cartridge filters equipped with a continuous broken bag (leak) detector at the exhaust stack, the Permittee shall comply with either Condition D.1.9 or Conditions D.1.10 and D.1.11.

(b) For baghouses and cartridge filters that are not equipped with a continuous broken bag (leak) detector at the exhaust stack, the Permittee shall comply with Conditions D.1.10 and D.1.11.

(c) For baghouse UU, the Permittee shall either comply with Condition D.1.13 or Conditions D.1.10 and D.1.11.

(d) All baghouses and cartridge filters shall comply with Condition D.1.12.

D.1.9 Broken Bag Detectors

(a) Except for Baghouse UU, for baghouses and cartridge filters equipped with a continuous broken bag (leak) detector at the exhaust stack, the detector shall be used for detecting the potential control device malfunction.

(b) Each broken bag detection system must be installed, calibrated, operated, and maintained according to the "Fabric Filter Bag Leak Detection Guidance," (September 1997).

(c) In the event that a breakdown of a broken bag detector occurs, a record shall be made of the times and the reasons of the breakdown and efforts made to correct the problem.

(d) Whenever a broken bag detector is malfunctioning or is down for maintenance or repairs for a period of twenty-four (24) hours or more, and a backup broken bag detector is not online within twenty-four (24) hours of shutdown or malfunction of the primary broken bag detector, the Permittee shall comply with Conditions D.1.10 and D.1.11 until such time that a broken bag detector is online and functioning, pursuant to paragraph (b) of this condition.

(e) The detector shall be subject to approval by IDEM, OAQ.

D.1.10 Visible Emissions Notations

For baghouses or cartridge filters that are not equipped with a continuous broken bag (leak) detector or as an alternative to complying with Condition D.1.9, the Permittee shall comply with the following:

(a) Daily visible emission notations of stack exhaust from each baghouse and cartridge filter shall be performed during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

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

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

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

(e) If abnormal emissions are observed, the Permittee shall take reasonable response steps. Failure to take response steps shall be considered a deviation from this permit. Section C – Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition.

D.1.11 Parametric Monitoring

For baghouses and cartridge filters that are not equipped with a continuous broken bag (leak) detector or as an alternative to complying with Condition D.1.9, the Permittee shall record the pressure drop across each baghouse at least once per day when each emissions unit is in operation. When for any one reading, the pressure drop is outside the normal range, the Permittee shall take a reasonable response. The normal pressure is listed in the table below, unless a different upper-bound or lower-bound value for this range is determined during the latest valid compliant stack test. Section C - Response to Excursions and Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above mentioned range is not a deviation from this permit.

Failure to take response shall be considered a deviation from this permit.

| Emission Unit | Baghouse | Pressure Drop Range (inches of water) |
|---|---|---|
| Unit #23: Furnace Charging, Melting and Pouring | UU | 3.0 to 8.0 |
| Unit #6: #1 Handline and Harrison Sand Tanks and Shakeout and Conveyor Operations for #1 Handline, #1 Harrison, #2 Harrison, #4 Sinto Mold Lines | H | 1.5 to 5.5 |
| Unit #20: Shakeout and Sand Handling for #1, #2, #3 Sintos | KK | 1.5 to 5.5 |
| Unit #13: Sand Treatment and Brass Reclaim Operations | T | 1.5 to 5.5 |
| Didion Rotary Metal Reclaimer | G | 1.5 to 5.5 |
| Unit #11: Shot Blasting | Q | 1.5 to 5.5 |
| Unit #12: Shot Blasting | S | 1.5 to 5.5 |
| Unit #14: Shot Blasting | U | 1.5 to 5.5 |
| Unit #15: Grinding and Cut-Off | V | 1.5 to 5.5 |
| Unit #16: Machining, Grinding, and Polishing | W | 1.0 to 5.0 |
| Unit #17: Machining, Grinding, and Polishing | X | 1.0 to 5.0 |
| Unit #18: Machining, Grinding, and Polishing | Y | 1.0 to 5.0 |
| Unit #26: Machining, Grinding, and Polishing | BC | 1.0 to 5.0 |
| Unit #29: Shot blast machine | Unit #29 cartridge filter | 1.0 to 8.0 |
| Unit #30: Cut-off saw | Unit #30 cartridge filter | 1.0 to 8.0 |

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

D.1.12 Broken or Failed Bag Detection

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

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

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, by an alarm of the bag leak detector warning

system, or by other means such as gas temperature, flow rate, air infiltration, leaks, or dust traces. An alarm of the bag leak detector warning system shall not be considered an indicator of bag failure if the baghouse's pressure drop and visible emissions readings are normal.

D.1.13 Bag Leak Detection

If the Permittee chooses, the Permittee shall install and operate a bag leak detection system for each baghouse module in baghouse UU, controlling Unit #23, with the following requirements:

(a) Each bag leak detection system must be installed, calibrated, operated, and maintained according to the "Fabric Filter Bag Leak Detection Guidance," (September 1997).

(b) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 1 milligram per actual cubic meter (0.00044 grains per actual cubic foot) or less.

(c) The bag leak detection system must be equipped with a device to continuously record the output signal from the sensor.

(d) The bag leak detection system must be equipped with an alarm system that will sound when the system detects an increase in relative particulate loading over the alarm set point established according to paragraph (e) below. The alarm must be located such that it can be heard by the appropriate plant personnel.

(e) In the initial adjustment of the bag leak detection system, at a minimum, the baseline output must be established by adjusting the sensitivity (range) and the averaging period of the device, the alarm set points, and the alarm delay time.

(1) Following the initial adjustment of the system, the averaging period, alarm set point, or alarm delay time must not be adjusted without IDEM approval, except as provided by subparagraph (2) below.

(2) Once per quarter, the Permittee may adjust the sensitivity of the bag leak detection system to account for seasonal effects, including temperature and humidity, according to procedures identified in the site-specific monitoring plan.

(f) The bag leak detection sensor must be installed downstream of the fabric filter.

(g) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

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

D.1.14 Record Keeping Requirement

(a) In order to document the compliance status with Condition D.1.1, the Permittee shall maintain records of the type and amount of metal melted in the furnaces sufficient to show compliance with Condition D.1.1.

(b) When using Visible Emissions Notations and Parametric Monitoring for baghouse and cartridge filter compliance monitoring,

(1) The Permittee shall maintain daily records of the visible emission notations of the baghouse and cartridge filter stack exhaust in order to document compliance with Condition D.1.10. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of a visible emission notation, (i.e. the process did not operate that day).

(2) The Permittee shall maintain daily records of pressure drop across the baghouse and cartridge filters in order to document compliance with Condition D.1.11. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (i.e. the process did not operate that day).

(c) When using Broken Bag Detectors for baghouse and cartridge filter compliance monitoring, for baghouses other than Baghouse UU, in order to document compliance with Condition D.1.9, the Permittee shall maintain the following daily records:

(1) The date and time of all broken bag detector alarms;

(2) For each valid alarm, the time the Permittee initiated corrective action;

(3) The corrective action taken; and

(4) The date on which the corrective action was completed.

(d) If the Permittee chooses to comply with Condition D.1.13, the Permittee shall keep the following records for Baghouse UU to document compliance with Condition D.1.13:

(1) Records of the bag leak detection system output.

(2) Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection system settings.

(3) The date and time of all bag leak detection system alarms, and for each valid alarm, the time the Permittee initiated corrective action, the corrective action taken, and the date on which the corrective action was completed.

(e) Section C – General Record Keeping Requirements contains the Permittee's obligation with regard to the record keeping required by this condition.

## SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

**Emissions Unit Description:**

**Insignificant Activities:**

(d) Natural gas-fired combustion sources with heat input equal to or less than ten (10) million British Thermal Units per hour, including, but not limited to:

(1) Two (2) natural gas fired boilers for building heating, identified as Units #1 and #2, installed in 2009, each with a maximum heat input capacity of 7.325 MMBtu/hr, and exhausting to Stack "A"; [326 IAC 6-2-4]

(2) Furnace ancillary equipment, installed in 2012, including one (1) furnace burner and three (3) ladle heaters, each with a maximum heat input capacity of 4.50 MMBtu/hr, exhausting uncontrolled to atmosphere.

(3) Direct-fired make-up air units, exhausting uncontrolled to atmosphere, including, but not limited to:

(i) One (1) make-up air unit, installed prior to 1990, identified as AMM-04, with a maximum heat input capacity of 5.00 MMBtu/hr.

(ii) One (1) make-up air unit, installed in 1991, identified as AMF-05, with a maximum heat input capacity of 3.00 MMBtu/hr.

(iii) One (1) make-up air unit, installed in 1996, identified as AMM-03, with a maximum heat input capacity of 2.00 MMBtu/hr.

(4) Direct-fired infrared heaters, exhausting uncontrolled to atmosphere, including, but not limited to:

(i) Twenty (20) heaters, constructed between 1990 and 2014, each with a maximum heat input capacity of 0.0715 MMBtu/hr.

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

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

D.2.1 Particulate Emissions [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), particulate emissions from the boilers, identified as Units #1 and #2, shall be limited to 0.41 pounds per MMBtu heat input, each.

## SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS

**Emissions Unit Description:**

**Surface Coating Operations:**

(r) One (1) Binks Teflon spray coating booth, identified as Unit #21, installed in 1980, with a maximum rate of 121.7 units per hour, using a semi-automatic air atomization application method for coating brass balls, using paper air filters for overspray control, and exhausting to Stack "OO";

**Insignificant Activities**

(hh) One (1) powder coating booth, used for epoxy coating, with a maximum capacity of eighteen (18) units per hour, using an integral cartridge filter for particulate capture and reuse, constructed in 1993 [326 IAC 6-3-2].

(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]

(a) Pursuant to 326 IAC 6-3-2(d), particulate from Binks Teflon Spray Coating Booth (Unit #21) shall be controlled by a dry particulate filter, waterwash, or an equivalent control device, and the Permittee shall operate the control device in accordance with the manufacturer's specifications.

(b) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the powder coating booth shall not exceed 0.551 pounds per hour.

D.3.2 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan (PMP) is required for these facilities and their associated control device. Section B – Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

**Compliance Determination Requirements**

D.3.3 Particulate Control

In order to demonstrate the compliance status with Conditions D.3.1(b), the filter for particulate control shall be in operation and control emissions from the powder coating booth at all times the powder coating booth is in operation.

## SECTION E.1 FACILITY OPERATION CONDITIONS

**Emissions Unit Description:**

Charging, Melting, and Pouring/Cooling:

(a) Unit #23, consisting of:

(1) Six (6) 5-ton each electric channel induction furnaces, two (2) constructed in 1970, one (1) constructed in 1973, two (2) constructed in 1975, one (1) constructed in 2004, each with a 1.25 tons per hour melt capacity;

(2) One (1) box induction furnace, constructed in 1996, with a 0.695 ton per hour melt capacity;

(3) One (1) crucible induction furnace, constructed in 1993, with a 0.53 ton per hour melt capacity; and

(4) Pouring/Casting operations associated with seven (7) molding lines, identified as #1 Handline, #1 Harrison, #2 Harrison, #1 Sinto, #2 Sinto, #3 Sinto, and #4 Sinto, constructed in 1971, 1970, 1988, 1997, 1998, 2000, and 2004, respectively.

Due to power supply limitations the box induction furnace and crucible induction furnace cannot operate simultaneously. The total maximum melt capacity is 8.195 tons per hour. Metallic fume emissions from melting and pouring, including transfer points, controlled by nine (9) baghouse modules, identified as “UU” with a common inlet but nine (9) individual stack discharges. [40 CFR 63, Subpart ZZZZZZ]

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

### E.1.1 General Provisions Relating to NESHAP ZZZZZZ [326 IAC 20-1][40 CFR 63, Subpart A]

Pursuant to 40 CFR 63.11555, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1-1, as specified in Table 1 of 40 CFR Part 63, Subpart ZZZZZZ in accordance with schedule in 40 CFR 63 Subpart ZZZZZZ.

### E.1.2 Area Source Standards for Aluminum, Copper, and Other Nonferrous Foundries NESHAP [40 CFR 63, Subpart ZZZZZZ]

The Permittee which engages in a copper foundry operation shall comply with the following provisions of 40 CFR Part 63, Subpart ZZZZZZ (included as Attachment A of this permit), with a compliance date of June 27, 2011:

(1) 40 CFR 63.11544(a)(2), (a)(4)(i), (b), (c);
(2) 40 CFR 63.11545(a);
(3) 40 CFR 63.11550(a), (b)(1), (d);
(4) 40 CFR 63.11551;
(5) 40 CFR 63.11552;
(6) 40 CFR 63.11553;
(7) 40 CFR 63.11555;
(8) 40 CFR 63.11556;
(9) 40 CFR 63.11557; and
(10) Table 1 to 40 CFR 63, Subpart ZZZZZZ.

## SECTION E.2 FACILITY OPERATION CONDITIONS

**Emissions Unit Description:**

(p) One (1) 100 KW spark ignition internal combustion natural gas-fired emergency generator, constructed in 2007, used to generate electric power, with a maximum power output rate of 134.1 horsepower, firing natural gas only, using no control and exhausting to the atmosphere. [40 CFR 63, Subpart ZZZZ]

(q) Two (2) diesel fuel-fired 423 maximum horsepower (2.9 million British thermal Units per hour) emergency generators, installed in 1992. [40 CFR 63, Subpart ZZZZ]

**Insignificant Activity**

(e) Propane or liquefied petroleum gas, or butane-fired combustion sources with heat input equal to or less than six (6) million British Thermal Units per hour; including, but not limited to:

(1) One (1) water tester pump engine, identified as WTP-01, approved in 2014 for construction, combusting only LPG fuel, with a maximum power output rate of 18 HP, exhausting inside the building.

Under 40 CFR 60, Subpart JJJJ, WTP-01 is considered an affected facility.

Under 40 CFR 63, Subpart ZZZZ, WTP-01 is considered an affected facility.

(bb) One (1) 100 HP four-stroke rich burn diesel-fired emergency fire pump, installed in January of 1980, using no control and exhausting to the atmosphere. [40 CFR 63, Subpart ZZZZ]

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

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

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

Pursuant to 40 CFR 63.6665, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1-1, as specified in Table 8 of 40 CFR Part 63, Subpart ZZZZ in accordance with schedule in 40 CFR 63 Subpart ZZZZ.

E.2.2 National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines [40 CFR 63, Subpart ZZZZ][326 IAC 20-82]

The Permittee shall comply with the following provisions of 40 CFR 63, Subpart ZZZZ, which are incorporated by reference as 326 IAC 20-82 (included as Attachment B of this permit) as specified below:

(a) For the 18 HP LPG fired water tester pump engine, the Permittee shall comply with the following:

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

(b) For the 100 HP diesel-fired emergency fire pump and both 423 HP diesel-fired emergency generators, the Permittee shall comply with the following:

(1) 40 CFR 63.6580;
(2) 40 CFR 63.6585
(3) 40 CFR 63.6590(a)(1)(iii);
(4) 40 CFR 63.6595(a)(1) (b), (c);
(5) 40 CFR 63.6603(a);
(6) 40 CFR 63.6605;
(7) 40 CFR 63.6625(e)(3), (f), (h), (i), (j);
(8) 40 CFR 63.6635;
(9) 40 CFR 63.6640(a), (b), (e), (f)(1), (f)(2), (f)(4);
(10) 40 CFR 63.6655(d), (e)(2), (e)(3);
(11) 40 CFR 63.6650;
(12) 40 CFR 63.6655;
(13) 40 CFR 63.6660;
(14) 40 CFR 63.6665;
(15) 40 CFR 63.6670;
(16) 40 CFR 63.6675;
(17) Table 2d (items 4); and
(18) Table 6 (item 9)
(19) Table 8

(c) For the 100 KW natural gas-fired emergency generator, the Permittee shall comply with the following:

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

## SECTION E.3 FACILITY OPERATION CONDITIONS

**Emissions Unit Description:**

**Insignificant Activity**

(e) Propane or liquefied petroleum gas, or butane-fired combustion sources with heat input equal to or less than six (6) million British Thermal Units per hour; including, but not limited to:

(1) One (1) water tester pump engine, identified as WTP-01, approved in 2014 for construction, combusting only LPG fuel, with a maximum power output rate of 18 HP, exhausting inside the building.

Under 40 CFR 60, Subpart JJJJ, WTP-01 is considered an affected facility.

Under 40 CFR 63, Subpart ZZZZ, WTP-01 is considered an affected facility.

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

**New Source Performance Standards (NSPS) Requirements**

E.3.1 General Provisions Relating to NSPS JJJJ [326 IAC 12-1][40 CFR 60, Subpart A]

Pursuant to 40 CFR 60.4248, the Permittee shall comply with the provision of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 12-1, as specified in Table 3 of 40 CFR Part 60, Subpart JJJJ in accordance with schedule in 40 CFR 60 Subpart JJJJ.

E.3.2 New Source Performance Standards (NSPS) for Stationary Spark Ignition Internal Combustion Engines [40 CFR 60, Subpart JJJJJ][326 IAC 12-1]

The Permittee, shall comply with the following provisions of 40 CFR 60, Subpart JJJJ, (included as Attachment C of this permit) as specified below:

(1) 40 CFR 60.4230(a)(4)(iii) and (a)(6)
(2) 40 CFR 60.4233(a)
(3) 40 CFR 60.4234
(4) 40 CFR 60.4236
(5) 40 CFR 60.4245(a)
(6) 40 CFR 60.4246
(7) 40 CFR 60.4248

## SECTION E.4 FACILITY OPERATION CONDITIONS

**Emissions Unit Description:**

(b1) One (1) sand dryer and screener, identified as SD-01, approved in 2014 for construction, with a maximum heat input capacity of 2.00 MMBtu/hr and a maximum throughput of 4.00 tons of sand per hour, using Baghouse "SD" for particulate emissions control, exhausting to stack "SD".

Under 40 CFR 60, Subpart UUU, sand dryer (SD-01) is considered an affected facility.

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

**New Source Performance Standards (NSPS) Requirements**

E.4.1 General Provisions Relating to NSPS UUU [326 IAC 12-1][40 CFR 60, Subpart A]

The provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 12-1-1, apply to the sand dryer (SD-01), except when otherwise specified in 40 CFR Part 60, Subpart UUU.

E.4.2 New Source Performance Standards (NSPS) for Calciners and Dryers in Mineral Industries [40 CFR 60, Subpart UUU][326 IAC 12-1]

The Permittee, shall comply with the following provisions of 40 CFR 60, Subpart UUU, (included as Attachment D of this permit) as specified below:

(1) 40 CFR 60.730(a) and (c)
(2) 40 CFR 60.731
(3) 40 CFR 60.732
(4) 40 CFR 60.733
(5) 40 CFR 60.736(a) and (b)
(6) 40 CFR 60.737

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

Source Name: Ford Meter Box Company, Inc.
Source Address: 775 Manchester Drive, Wabash, Indiana 46992
Mailing Address: PO Box 398, 775 Manchester Ave., Wabash, Indiana 46992-0398
Part 70 Permit No.: T 169-25077-00003

**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: Ford Meter Box Company, Inc.
Source Address: 775 Manchester Drive, Wabash, Indiana 46992
Mailing Address: PO Box 398, 775 Manchester Ave., Wabash, Indiana 46992-0398
Part 70 Permit No.: T 169-25077-00003

**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: Ford Meter Box Company, Inc.
Source Address: 775 Manchester Drive, Wabash, Indiana 46992
Mailing Address: PO Box 398, 775 Manchester Ave., Wabash, Indiana 46992-0398
Part 70 Permit No.: T169-25077-00003

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



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

| | |
|---|---|
| **Permit Requirement** (specify permit condition #) | |
| **Date of Deviation:** | **Duration of Deviation:** |
| **Number of Deviations:** | |
| **Probable Cause of Deviation:** | |
| **Response Steps Taken:** | |
| **Permit Requirement** (specify permit condition #) | |
| **Date of Deviation:** | **Duration of Deviation:** |
| **Number of Deviations:** | |
| **Probable Cause of Deviation:** | |
| **Response Steps Taken:** | |
| **Permit Requirement** (specify permit condition #) | |
| **Date of Deviation:** | **Duration of Deviation:** |
| **Number of Deviations:** | |
| **Probable Cause of Deviation:** | |
| **Response Steps Taken:** | |

Form Completed by:_____

Title / Position: _____

Date:_____

Phone: _____

Attach a signed certification to complete this report.

**Attachment A to**
**Part 70 Operating Permit T169-25077-00003**

[Downloaded from the eCFR on April 14, 2014]

**Electronic Code of Federal Regulations**

**Title 40: Protection of Environment**

**PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES (CONTINUED)**

**Subpart ZZZZZZ—National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Aluminum, Copper, and Other Nonferrous Foundries**

SOURCE: 74 FR 30393, June 25, 2009, unless otherwise noted.

**Applicability and Compliance Dates**

**§63.11544 Am I subject to this subpart?**

(a) You are subject to this subpart if you own or operate an aluminum foundry, copper foundry, or other nonferrous foundry as defined in §63.11556, "What definitions apply to this subpart?" that is an area source of hazardous air pollutant (HAP) emissions as defined in §63.2 and meets the criteria specified in paragraphs (a)(1) through (4) of this section. Once you are subject to this subpart, you must remain subject to this subpart even if you subsequently do not meet the criteria in paragraphs (a)(1) through (4) of this section.

(1) Your aluminum foundry uses material containing aluminum foundry HAP, as defined in §63.11556, "What definitions apply to this subpart?"; or

(2) Your copper foundry uses material containing copper foundry HAP, as defined in §63.11556, "What definitions apply to this subpart?"; or

(3) Your other nonferrous foundry uses material containing other nonferrous foundry HAP, as defined in §63.11556, "What definitions apply to this subpart?".

(4) Your aluminum foundry, copper foundry, or other nonferrous foundry has an annual metal melt production (for existing affected sources) or an annual metal melt capacity (for new affected sources) of at least 600 tons per year (tpy) of aluminum, copper, and other nonferrous metals, including all associated alloys. You must determine the annual metal melt production and capacity for the time period as described in paragraphs (a)(4)(i) through (iv) of this section. The quantity of ferrous metals melted in iron or steel melting operations and the quantity of nonferrous metal melted in non-foundry melting operations are not included in determining the annual metal melt production for existing affected sources or the annual metal melt capacity for new affected sources.

(i) If you own or operate a melting operation at an aluminum, copper or other nonferrous foundry as of February 9, 2009, you must determine if you are subject to this rule based on your facility's annual metal melt production for calendar year 2010.

(ii) If you construct or reconstruct a melting operation at an aluminum, copper or other nonferrous foundry after February 9, 2009, you must determine if you are subject to this rule based on your facility's annual metal melt capacity at startup.

(iii) If your foundry with an existing melting operation increases production after calendar year 2010 such that the annual metal melt production equals or exceeds 600 tpy, you must submit a written notification of applicability to the Administrator within 30 days after the end of the calendar year and comply within 2 years after the date of the notification.

(iv) If your foundry with a new melting operation increases capacity after startup such that the annual metal melt capacity equals or exceeds 600 tpy, you must submit a written notification of applicability to the Administrator within 30 days after the capacity increase year and comply at the time of the capacity increase.

(b) This subpart applies to each new or existing affected source located at an aluminum, copper or other nonferrous foundry that is an area source as defined by §63.2. The affected source is the collection of all melting operations located at an aluminum, copper, or other nonferrous foundry.

(c) An affected source is an existing source if you commenced construction or reconstruction of the affected source on or before February 9, 2009.

(d) An affected source is a new source if you commenced construction or reconstruction of the affected source after February 9, 2009.

(e) This subpart does not apply to research or laboratory facilities, as defined in section 112(c)(7) of the Clean Air Act.

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

[74 FR 30393, June 25, 2009, as amended at 74 FR 46495, Sept. 10, 2009]

**§63.11545 What are my compliance dates?**

(a) If you own or operate an existing affected source, you must achieve compliance with the applicable provisions of this subpart no later than June 27, 2011.

(b) If you start up a new affected source on or before June 25, 2009, you must achieve compliance with the provisions of this subpart no later than June 25, 2009.

(c) If you start up a new affected source after June 25, 2009, you must achieve compliance with the provisions of this subpart upon startup of your affected source.

**Standards and Compliance Requirements**

**§63.11550 What are my standards and management practices?**

(a) If you own or operate new or existing affected sources at an aluminum foundry, copper foundry, or other nonferrous foundry that is subject to this subpart, you must comply with the requirements in paragraphs (a)(1) through (3) of this section.

(1) Cover or enclose each melting furnace that is equipped with a cover or enclosure during the melting operation to the extent practicable (e.g., except when access is needed; including, but not limited to charging, alloy addition, and tapping).

(2) Purchase only metal scrap that has been depleted (to the extent practicable) of aluminum foundry HAP, copper foundry HAP, or other nonferrous foundry HAP (as applicable) in the materials charged to the melting furnace, except metal scrap that is purchased specifically for its HAP metal content for use in alloying or to meet specifications for the casting. This requirement does not apply to material that is not scrap (e.g., ingots, alloys, sows) or to materials that are not purchased (e.g., internal scrap, customer returns).

(3) Prepare and operate pursuant to a written management practices plan. The management practices plan must include the required management practices in paragraphs (a)(1) and (2) of this section and may include any other management practices that are implemented at the facility to minimize emissions from melting furnaces. You must inform your appropriate employees of the management practices that they must follow. You may use your standard

operating procedures as the management practices plan provided the standard operating procedures include the required management practices in paragraphs (a)(1) and (2) of this section.

(b) If you own or operate a new or existing affected source that is located at a large foundry as defined in §63.11556, you must comply with the additional requirements in paragraphs (b)(1) and (2) of this section.

(1) For existing affected sources located at a large foundry, you must achieve a particulate matter (PM) control efficiency of at least 95.0 percent or emit no more than an outlet PM concentration limit of 0.034 grams per dry standard cubic meter (g/dscm) (0.015 grains per dry standard cubic feet (gr/dscf)).

(2) For new affected sources located at a large foundry, you must achieve a PM control efficiency of at least 99.0 percent or emit no more than an outlet PM concentration limit of at most 0.023 g/dscm (0.010 gr/dscf).

(c) If you own or operate an affected source at a small foundry that subsequently becomes a large foundry after the applicable compliance date, you must meet the requirements in paragraphs (c)(1) through (3) of this section.

(1) You must notify the Administrator within 30 days after the capacity increase or the production increase, whichever is appropriate;

(2) You must modify any applicable permit limits within 30 days after the capacity increase or the production increase to reflect the current production or capacity, if not done so prior to the increase;

(3) You must comply with the PM control requirements in paragraph (b) of this section no later than 2 years from the date of issuance of the permit for the capacity increase or production increase, or in the case of no permit issuance, the date of the increase in capacity or production, whichever occurs first.

(d) These standards apply at all times.

**§63.11551 What are my initial compliance requirements?**

(a) Except as specified in paragraph (b) of this section, you must conduct a performance test for existing and new sources at a large copper or other nonferrous foundry that is subject to §63.11550(b). You must conduct the test within 180 days of your compliance date and report the results in your Notification of Compliance Status according to §63.9(h).

(b) If you own or operate an existing affected source at a large copper or other nonferrous foundry that is subject to §63.11550(b), you are not required to conduct a performance test if a prior performance test was conducted within the past 5 years of the compliance date using the same methods specified in paragraph (c) of this section and you meet either of the following two conditions:

(1) No process changes have been made since the test; or

(2) You demonstrate to the satisfaction of the permitting authority that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process changes.

(c) You must conduct each performance test according to the requirements in §63.7 and the requirements in paragraphs (c)(1) and (2) of this section.

(1) You must determine the concentration of PM (for the concentration standard) or the mass rate of PM in pounds per hour at the inlet and outlet of the control device (for the percent reduction standard) according to the following test methods:

(i) Method 1 or 1A (40 CFR part 60, appendix A-1) to select sampling port locations and the number of traverse points in each stack or duct. If you are complying with the concentration provision in §63.11550(b), sampling sites must be located at the outlet of the control device and prior to any releases to the atmosphere. If you are complying with the

percent reduction provision in §63.11550(b), sampling sites must be located at the inlet and outlet of the control device and prior to any releases to the atmosphere.

(ii) Method 2, 2A, 2C, 2D, 2F (40 CFR part 60, appendix A-1), or Method 2G (40 CFR part 60, appendix A-2) to determine the volumetric flow rate of the stack gas.

(iii) Method 3, 3A, or 3B (40 CFR part 60, appendix A-2) to determine the dry molecular weight of the stack gas. You may use ANSI/ASME PTC 19.10-1981, “Flue and Exhaust Gas Analyses” (incorporated by reference—see §63.14) as an alternative to EPA Method 3B.

(iv) Method 4 (40 CFR part 60, appendix A-3) to determine the moisture content of the stack gas.

(v) Method 5 or 5D (40 CFR part 60, appendix A-3) or Method 17 (40 CFR part 60, appendix A-6) to determine the concentration of PM or mass rate of PM (front half filterable catch only). If you choose to comply with the percent reduction PM standard, you must determine the mass rate of PM at the inlet and outlet in pounds per hour and calculate the percent reduction in PM.

(2) Three valid test runs are needed to comprise a performance test. Each run must cover at least one production cycle (charging, melting, and tapping).

(3) For a source with a single control device exhausted through multiple stacks, you must ensure that three runs are performed by a representative sampling of the stacks satisfactory to the Administrator or his or her delegated representative. You must provide data or an adequate explanation why the stack(s) chosen for testing are representative.

**§63.11552 What are my monitoring requirements?**

(a) You must record the information specified in §63.11553(c)(2) to document conformance with the management practices plan required in §63.11550(a).

(b) Except as specified in paragraph (b)(3) of this section, if you own or operate an existing affected source at a large foundry, you must conduct visible emissions monitoring according to the requirements in paragraphs (b)(1) and (2) of this section.

(1) You must conduct visual monitoring of the fabric filter discharge point(s) (outlets) for any VE according to the schedule specified in paragraphs (b)(1)(i) and (ii) of this section.

(i) You must perform a visual determination of emissions once per day, on each day the process is in operation, during melting operations.

(ii) If no VE are detected in consecutive daily visual monitoring performed in accordance with paragraph (b)(1)(i) of this section for 30 consecutive days or more of operation of the process, you may decrease the frequency of visual monitoring to once per calendar week of time the process is in operation, during melting operations. If VE are detected during these inspections, you must resume daily visual monitoring of that operation during each day that the process is in operation, in accordance with paragraph (b)(1)(i) of this section until you satisfy the criteria of this section to resume conducting weekly visual monitoring.

(2) If the visual monitoring reveals the presence of any VE, you must initiate procedures to determine the cause of the emissions within 1 hour of the initial observation and alleviate the cause of the emissions within 3 hours of initial observation by taking whatever corrective action(s) are necessary. You may take more than 3 hours to alleviate a specific condition that causes VE if you identify in the monitoring plan this specific condition as one that could lead to VE in advance, you adequately explain why it is not feasible to alleviate this condition within 3 hours of the time the VE occurs, and you demonstrate that the requested time will ensure alleviation of this condition as expeditiously as practicable.

(3) As an alternative to the monitoring requirements for an existing affected source in paragraphs (b)(1) and (2) of this section, you may install, operate, and maintain a bag leak detection system for each fabric filter according to the requirements in paragraph (c) of this section.

(c) If you own or operate a new affected source located at a large foundry subject to the PM requirements in §63.11550(b)(2) that is equipped with a fabric filter, you must install, operate, and maintain a bag leak detection system for each fabric filter according to paragraphs (c)(1) through (4) of this section.

(1) Each bag leak detection system must meet the specifications and requirements in paragraphs (c)(1)(i) through (viii) of this section.

(i) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 1 milligram per actual cubic meter (0.00044 grains per actual cubic foot) or less.

(ii) The bag leak detection system sensor must provide output of relative PM loadings. You must continuously record the output from the bag leak detection system using electronic or other means (e.g., using a strip chart recorder or a data logger).

(iii) The bag leak detection system must be equipped with an alarm system that will sound when the system detects an increase in relative particulate loading over the alarm set point established according to paragraph (c)(1)(iv) of this section, and the alarm must be located such that it can be heard by the appropriate plant personnel.

(iv) In the initial adjustment of the bag leak detection system, you must establish, at a minimum, the baseline output by adjusting the sensitivity (range) and the averaging period of the device, the alarm set points, and the alarm delay time.

(v) Following initial adjustment, you must not adjust the averaging period, alarm set point, or alarm delay time without approval from the Administrator or delegated authority, except as provided in paragraph (c)(1)(vi) of this section.

(vi) Once per quarter, you may adjust the sensitivity of the bag leak detection system to account for seasonal effects, including temperature and humidity, according to the procedures identified in the site-specific monitoring plan required by paragraph (c)(2) of this section.

(vii) You must install the bag leak detection sensor downstream of the fabric filter.

(viii) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

(2) You must prepare a site-specific monitoring plan for each bag leak detection system. You must operate and maintain each bag leak detection system according to the plan at all times. Each monitoring plan must describe the items in paragraphs (c)(2)(i) through (vi) of this section.

(i) Installation of the bag leak detection system;

(ii) Initial and periodic adjustment of the bag leak detection system, including how the alarm set-point and alarm delay time will be established;

(iii) Operation of the bag leak detection system, including quality assurance procedures;

(iv) How the bag leak detection system will be maintained, including a routine maintenance schedule and spare parts inventory list;

(v) How the bag leak detection system output will be recorded and stored; and

(vi) Corrective action procedures as specified in paragraph (c)(3) of this section.

(3) Except as provided in paragraph (c)(4) of this section, you must initiate procedures to determine the cause of every alarm from a bag leak detection system within 1 hour of the alarm and alleviate the cause of the alarm within 3 hours of the alarm by taking whatever corrective action(s) are necessary. Corrective actions may include, but are not limited to, the following:

(i) Inspecting the fabric filter for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in PM emissions;

(ii) Sealing off defective bags or filter media;

(iii) Replacing defective bags or filter media, or otherwise repairing the control device;

(iv) Sealing off a defective fabric filter compartment;

(v) Cleaning the bag leak detection system probe, or otherwise repairing the bag leak detection system; or

(4) You may take more than 3 hours to alleviate a specific condition that causes an alarm if you identify in the monitoring plan this specific condition as one that could lead to an alarm, adequately explain why it is not feasible to alleviate this condition within 3 hours of the time the alarm occurs, and demonstrate that the requested time will ensure alleviation of this condition as expeditiously as practicable.

(d) If you use a control device other than a fabric filter for new or existing affected sources subject to §63.11550(b), you must submit a request to use an alternative monitoring procedure as required in §63.8(f)(4).

**§63.11553 What are my notification, reporting, and recordkeeping requirements?**

(a) You must submit the Initial Notification required by §63.9(b)(2) no later than 120 calendar days after June 25, 2009 or within 120 days after the source becomes subject to the standard. The Initial Notification must include the information specified in paragraphs (a)(1) through (3) of this section and may be combined with the Notification of Compliance Status required in paragraph (b) of this section.

(1) The name and address of the owner or operator;

(2) The address (i.e., physical location) of the affected source; and

(3) An identification of the relevant standard, or other requirement, that is the basis of the notification and source's compliance date.

(b) You must submit the Notification of Compliance Status required by §63.9(h) no later than 120 days after the applicable compliance date specified in §63.11545 unless you must conduct a performance test. If you must conduct a performance test, you must submit the Notification of Compliance Status within 60 days of completing the performance test. Your Notification of Compliance Status must indicate if you are a small or large foundry as defined in §63.11556, the production amounts as the basis for the determination, and if you are a large foundry, whether you elect to comply with the control efficiency requirement or PM concentration limit in §63.11550(b). In addition to the information required in §63.9(h)(2) and §63.11551, your notification must include the following certification(s) of compliance, as applicable, and signed by a responsible official:

(1) “This facility will operate in a manner that minimizes HAP emissions from the melting operations to the extent possible. This includes at a minimum that the owners and/or operators of the affected source will cover or enclose each melting furnace that is equipped with a cover or enclosure during melting operations to the extent practicable as required in 63.11550(a)(1).”

(2) “This facility agrees to purchase only metal scrap that has been depleted (to the extent practicable) of aluminum foundry HAP, copper foundry HAP, or other nonferrous foundries HAP (as applicable) in the materials charged to the melting furnace, except for metal scrap that is purchased specifically for its HAP metal content for use in alloying or to meet specifications for the casting as required by 63.11550(a)(2).”

(3) “This facility has prepared and will operate by a written management practices plan according to §63.11550(a)(3).”

(4) If the owner or operator of an existing affected source at a large foundry is certifying compliance based on the results of a previous performance test: “This facility complies with §63.11550(b) based on a previous performance test in accordance with §63.11551(b).”

(5) This certification of compliance is required by the owner or operator that installs bag leak detection systems: “This facility has installed a bag leak detection system in accordance with §63.11552(b)(3) or (c), has prepared a bag leak detection system monitoring plan in accordance with §63.11552(c), and will operate each bag leak detection system according to the plan.”

(c) You must keep the records specified in paragraphs (c)(1) through (5) of this section.

(1) As required in §63.10(b)(2)(xiv), you must keep a copy of each notification that you submitted to comply with this subpart and all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted.

(2) You must keep records to document conformance with the management practices plan required by §63.11550 as specified in paragraphs (c)(2)(i) and (ii) of this section.

(i) For melting furnaces equipped with a cover or enclosure, records must identify each melting furnace equipped with a cover or enclosure and document that the procedures in the management practices plan were followed during the monthly inspections. These records may be in the form of a checklist.

(ii) Records documenting that you purchased only metal scrap that has been depleted of HAP metals (to the extent practicable) charged to the melting furnace. If you purchase scrap metal specifically for the HAP metal content for use in alloying or to meet specifications for the casting, you must keep records to document that the HAP metal is included in the material specifications for the cast metal product.

(3) You must keep the records of all performance tests, inspections and monitoring data required by §§63.11551 and 63.11552, and the information identified in paragraphs (c)(3)(i) through (vi) of this section for each required inspection or monitoring.

(i) The date, place, and time of the monitoring event;

(ii) Person conducting the monitoring;

(iii) Technique or method used;

(iv) Operating conditions during the activity;

(v) Results, including the date, time, and duration of the period from the time the monitoring indicated a problem (e.g., VE) to the time that monitoring indicated proper operation; and

(vi) Maintenance or corrective action taken (if applicable).

(4) If you own or operate a new or existing affected source at a small foundry that is not subject to §63.11550(b), you must maintain records to document that your facility melts less than 6,000 tpy total of copper, other nonferrous metal, and all associated alloys (excluding aluminum) in each calendar year.

(5) If you use a bag leak detection system, you must keep the records specified in paragraphs (c)(5)(i) through (iii) of this section.

(i) Records of the bag leak detection system output.

(ii) Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection system settings.

(iii) The date and time of all bag leak detection system alarms, and for each valid alarm, the time you initiated corrective action, the corrective action taken, and the date on which corrective action was completed.

(d) Your records must be in a form suitable and readily available for expeditious review, according to §63.10(b)(1). As specified in §63.10(b)(1), you must keep each record for 5 years following the date of each recorded action. For records of annual metal melt production, you must keep the records for 5 years from the end of the calendar year. You must keep each record onsite for at least 2 years after the date of each recorded action according to §63.10(b)(1). You may keep the records offsite for the remaining 3 years.

(e) If a deviation occurs during a semiannual reporting period, you must submit a compliance report to your permitting authority according to the requirements in paragraphs (e)(1) and (2) of this section.

(1) The first reporting period covers the period beginning on the compliance date specified in §63.11545 and ending on June 30 or December 31, whichever date comes first after your compliance date. Each subsequent reporting period covers the semiannual period from January 1 through June 30 or from July 1 through December 31. Your compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date comes first after the end of the semiannual reporting period.

(2) A compliance report must include the information in paragraphs (e)(2)(i) through (iv) of this section.

(i) Company name and address.

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

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

(iv) Identification of the affected source, the pollutant being monitored, applicable requirement, description of deviation, and corrective action taken.

[74 FR 30393, June 25, 2009, as amended at 74 FR 46495, Sept. 10, 2009]

**Other Requirements and Information**

**§63.11555 What General Provisions apply to this subpart?**

Table 1 to this subpart shows which parts of the General Provisions in §§63.1 through 63.16 apply to you.

**§63.11556 What definitions apply to this subpart?**

Terms used in this subpart are defined in the Clean Air Act, in §63.2, and in this section as follows:

*Aluminum foundry* means a facility that melts aluminum and pours molten aluminum into molds to manufacture aluminum castings (except die casting) that are complex shapes. For purposes of this subpart, this definition does not include primary or secondary metal producers that cast molten aluminum to produce simple shapes such as sows, ingots, bars, rods, or billets.

*Aluminum foundry HAP* means any compound of the following metals: beryllium, cadmium, lead, manganese, or nickel, or any of these metals in the elemental form.

*Annual copper and other nonferrous foundry metal melt capacity* means, for new affected sources, the lower of the copper and other nonferrous metal melting operation capacity, assuming 8,760 operating hours per year or, if applicable, the maximum permitted copper and other nonferrous metal melting operation production rate for the

melting operation calculated on an annual basis. Unless otherwise specified in the permit, permitted copper and other nonferrous metal melting operation rates that are not specified on an annual basis must be annualized assuming 24 hours per day, 365 days per year of operation. If the permit limits the operating hours of the melting operation(s) or foundry, then the permitted operating hours are used to annualize the maximum permitted copper and other nonferrous metal melt production rate. The annual copper and other nonferrous metal melt capacity does not include the melt capacity for ferrous metal melted in iron or steel foundry melting operations that are co-located with copper or other nonferrous melting operations or the nonferrous metal melted in non-foundry melting operations.

*Annual copper and other nonferrous foundry metal melt production* means, for existing affected sources, the quantity of copper and other nonferrous metal melted in melting operations at the foundry in a given calendar year. For the purposes of this subpart, metal melt production is determined on the basis of the quantity of metal charged to the melting operations. The annual copper and nonferrous metal melt production does not include the melt production of ferrous metal melted in iron or steel foundry melting operations that are co-located with copper and other nonferrous melting operations or the nonferrous metal melted in non-foundry melting operations.

*Annual metal melt capacity,* for new affected sources, means the lower of the aluminum, copper, and other nonferrous metal melting operation capacity, assuming 8,760 operating hours per year or, if applicable, the maximum permitted aluminum, copper, and other nonferrous metal melting operation production rate for the melting operation calculated on an annual basis. Unless otherwise specified in the permit, permitted aluminum, copper, and other nonferrous metal melting operation rates that are not specified on an annual basis must be annualized assuming 24 hours per day, 365 days per year of operation. If the permit limits the operating hours of the melting operation(s) or foundry, then the permitted operating hours are used to annualize the maximum permitted aluminum, copper, and other nonferrous metal melt production rate. The annual metal melt capacity does not include the melt capacity for ferrous metal melted in iron or steel foundry melting operations that are co-located with aluminum, copper, or other nonferrous melting operations or the nonferrous metal melted in non-foundry melting operations.

*Annual metal melt production* means, for existing affected sources, the quantity of aluminum, copper, and other nonferrous metal melted in melting operations at the foundry in a given calendar year. For the purposes of this subpart, annual metal melt production is determined on the basis of the quantity of metal charged to the melting operations. The annual metal melt production does not include the melt production of ferrous metal melted in iron or steel foundry melting operations that are co-located with aluminum, copper, or other nonferrous melting operations or the nonferrous metal melted in non-foundry melting operations.

*Bag leak detection system* means a system that is capable of continuously monitoring relative PM (*i.e.,* dust) loadings in the exhaust of a baghouse to detect bag leaks and other upset conditions. A bag leak detection system includes, but is not limited to, an instrument that operates on triboelectric, light scattering, light transmittance, or other effect to continuously monitor relative PM loadings.

*Copper foundry* means a foundry that melts copper or copper-based alloys and pours molten copper or copper-based alloys into molds to manufacture copper or copper-based alloy castings (excluding die casting) that are complex shapes. For purposes of this subpart, this definition does not include primary or secondary metal producers that cast molten copper to produce simple shapes such as sows, ingots, billets, bars, anode copper, rods, or copper cake.

*Copper foundry HAP* means any compound of any of the following metals: lead, manganese, or nickel, or any of these metals in the elemental form.

*Deviation* means any instance where 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 emissions limitation or work practice standard;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emissions limitation in this subpart during startup, shutdown, or malfunction, regardless of whether or not such failure is permitted by this subpart.

*Die casting* means operations classified under the North American Industry Classification System codes 331521 (Aluminum Die-Casting Foundries) and 331522 (Nonferrous (except Aluminum) Die-Casting Foundries) and comprises establishments primarily engaged in introducing molten aluminum, copper, and other nonferrous metal, under high pressure, into molds or dies to make die-castings.

*Large foundry* means, for an existing affected source, a copper or other nonferrous foundry with an annual metal melt production of copper, other nonferrous metals, and all associated alloys (excluding aluminum) of 6,000 tons or greater. For a new affected source, *large foundry* means a copper or other nonferrous foundry with an annual metal melt capacity of copper, other nonferrous metals, and all associated alloys (excluding aluminum) of 6,000 tons or greater.

*Material containing aluminum foundry HAP* means a material containing one or more aluminum foundry HAP. Any material that contains beryllium, cadmium, lead, or nickel in amounts greater than or equal to 0.1 percent by weight (as the metal), or contains manganese in amounts greater than or equal to 1.0 percent by weight (as the metal), as shown in formulation data provided by the manufacturer or supplier, such as the Material Safety Data Sheet for the material, is considered to be a material containing aluminum foundry HAP.

*Material containing copper foundry HAP* means a material containing one or more copper foundry HAP. Any material that contains lead or nickel in amounts greater than or equal to 0.1 percent by weight (as the metal), or contains manganese in amounts greater than or equal to 1.0 percent by weight (as the metal), as shown in formulation data provided by the manufacturer or supplier, such as the Material Safety Data Sheet for the material, is considered to be a material containing copper foundry HAP.

*Material containing other nonferrous foundry HAP* means a material containing one or more other nonferrous foundry HAP. Any material that contains chromium, lead, or nickel in amounts greater than or equal to 0.1 percent by weight (as the metal), as shown in formulation data provided by the manufacturer or supplier, such as the Material Safety Data Sheet for the material, is considered to be a material containing other nonferrous foundry HAP.

*Melting operations* (the affected source) means the collection of furnaces (*e.g.,* induction, reverberatory, crucible, tower, dry hearth) used to melt metal ingot, alloyed ingot and/or metal scrap to produce molten metal that is poured into molds to make castings. Melting operations dedicated to melting ferrous metal at an iron and steel foundry are not included in this definition and are not part of the affected source.

*Other nonferrous foundry* means a facility that melts nonferrous metals other than aluminum, copper, or copper-based alloys and pours the nonferrous metals into molds to manufacture nonferrous metal castings (excluding die casting) that are complex shapes. For purposes of this subpart, this definition does not include primary or secondary metal producers that cast molten nonferrous metals to produce simple shapes such as sows, ingots, bars, rods, or billets.

*Other nonferrous foundry HAP* means any compound of the following metals: chromium, lead, and nickel, or any of these metals in the elemental form.

*Small foundry* means, for an existing affected source, a copper or other nonferrous foundry with an annual metal melt production of copper, other nonferrous metals, and all associated alloys (excluding aluminum) of less than 6,000 tons. For a new affected source, *small foundry* means a copper or other nonferrous foundry with an annual metal melt capacity of copper, other nonferrous metals, and all associated alloys (excluding aluminum) of less than 6,000 tons.

**§63.11557 Who implements and enforces this subpart?**

(a) This subpart can be 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 has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out if 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 listed in paragraphs (c)(1) through (4) of this section.

(1) Approval of alternatives to the applicability requirements in §63.11544, the compliance date requirements in §63.11545, and the applicable standards in §63.11550.

(2) Approval of an alternative nonopacity emissions standard under §63.6(g).

(3) Approval of a major change to a test method under §63.7(e)(2)(ii) and (f). A “major change to test method” is defined in §63.90(a).

(4) Approval of a major change to monitoring under §63.8(f). A “major change to monitoring” is defined in §63.90(a).

(5) Approval of a waiver of recordkeeping or reporting requirements under §63.10(f), or another major change to recordkeeping/reporting. A “major change to recordkeeping/reporting” is defined in §63.90(a).

**§63.11558 [Reserved]**

**Table 1 to Subpart ZZZZZZ of Part 63—Applicability of General Provisions to Aluminum, Copper, and Other Nonferrous Foundries Area Sources**

As required in §63.11555, “What General Provisions apply to this subpart?,” you must comply with each requirement in the following table that applies to you.

| Citation | Subject | Applies to subpart ZZZZZZ? | Explanation |
|---|---|---|---|
| §63.1(a)(1), (a)(2), (a)(3), (a)(4), (a)(6), (a)(10)-(a)(12), (b)(1), (b)(3), (c)(1), (c)(2), (c)(5), (e) | Applicability | Yes | §63.11544(f) exempts affected sources from the obligation to obtain a title V operating permit. |
| §63.1(a)(5), (a)(7)-(a)(9), (b)(2), (c)(3), (c)(4), (d) | Reserved | No | |
| §63.2 | Definitions | Yes | |
| §63.3 | Units and Abbreviations | Yes | |
| §63.4 | Prohibited Activities and Circumvention | Yes | |
| §63.5 | Preconstruction Review and Notification Requirements | Yes | |
| §63.6(a), (b)(1)-(b)(5), (b)(7), (c)(1), (c)(2), (c)(5), (e)(1), (e)(3)(i), (e)(3)(iii)-(e)(3)(ix), (f)(2), (f)(3), (g), (i), (j) | Compliance with Standards and Maintenance Requirements | Yes | |
| §63.6(f)(1) | Compliance with Nonopacity Emission Standards | No | Subpart ZZZZZZ requires continuous compliance with all requirements in this subpart. |
| §63.6(h)(1), (h)(2), (h)(5)-(h)(9) | Compliance with Opacity and Visible Emission Limits | No | Subpart ZZZZZZ does not contain opacity or visible emission limits. |
| §63.6(b)(6), (c)(3), (c)(4), (d), (e)(2), (e)(3)(ii), (h)(3), (h)(5)(iv) | Reserved | No | |
| §63.7 | Applicability and Performance Test Dates | Yes | |

| Citation | Subject | Applies to subpart ZZZZZZ? | Explanation |
|---|---|---|---|
| §63.8(a)(1), (b)(1), (f)(1)-(5), (g) | Monitoring Requirements | Yes | |
| §63.8(a)(2), (a)(4), (b)(2)-(3), (c), (d), (e), (f)(6), (g) | Continuous Monitoring Systems | No | Subpart ZZZZZZ does not require a flare or CPMS, COMS or CEMS. |
| §63.8(a)(3) | [Reserved] | No | |
| §63.9(a), (b)(1), (b)(2)(i)-(iii), (b)(5), (c), (d), (e), (h)(1)-(h)(3), (h)(5), (h)(6), (j) | Notification Requirements | Yes | Subpart ZZZZZZ requires submission of Notification of Compliance Status within 120 days of compliance date unless a performance test is required. |
| §63.9(b)(2)(iv)-(v), (b)(4), (f), (g), (i) | No | | |
| §63.9(b)(3), (h)(4) | Reserved | No | |
| §63.10(a), (b)(1), (b)(2)(i)-(v), (vii), (vii)(C), (viii), (ix), (b)(3), (d)(1)-(2), (d)(4), (d)(5), (f) | Recordkeeping and Reporting Requirements | Yes | |
| §63.10(b)(2)(vi), (b)(2)(vii)(A)-(B), (c), (d)(3), (e) | No | Subpart ZZZZZZ does not require a CPMS, COMS, CEMS, or opacity or visible emissions limit. | |
| §63.10(c)(2)-(c)(4), (c)(9) | Reserved | No | |
| §63.11 | Control Device Requirements | No | |
| §63.12 | State Authority and Delegations | Yes | |
| §§63.13-63.16 | Addresses, Incorporations by Reference, Availability of Information, Performance Track Provisions | Yes | |

**Attachment B to**
**Part 70 Operating Permit T169-25077-00003**

[Downloaded from the eCFR on May 13, 2013]

**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:

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

Where:

$C_i$ = concentration of carbon monoxide (CO), total hydrocarbons (THC), or formaldehyde at the control device inlet,

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

R = percent reduction of CO, THC, or formaldehyde emissions.

(2) You must normalize the CO, THC, or formaldehyde concentrations at the inlet and outlet of the control device to a dry basis and to 15 percent oxygen, or an equivalent percent carbon dioxide ($CO_2$ ). If pollutant concentrations are to be corrected to 15 percent oxygen and $CO_2$ concentration is measured in lieu of oxygen concentration measurement, a $CO_2$ correction factor is needed. Calculate the $CO_2$ correction factor as described in paragraphs (e)(2)(i) through (iii) of this section.

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

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

Where:

$F_o$ = Fuel factor based on the ratio of oxygen volume to the ultimate $CO_2$ volume produced by the fuel at zero percent excess air.

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

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

$F_c$ = Ratio of the volume of $CO_2$ produced to the gross calorific value of the fuel from Method 19, $dsm^3$ /J (dscf/$10^6$ Btu)

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

$$X_{CO2} = \frac{5.9}{F_o} \quad (Eq. 3)$$

Where:

$X_{CO2}$ = $CO_2$ correction factor, percent.

5.9 = 20.9 percent $O_2$ —15 percent $O_2$ , the defined $O_2$ correction value, percent.

(iii) Calculate the CO, THC, and formaldehyde gas concentrations adjusted to 15 percent $O_2$ using $CO_2$ as follows:

$$C_{adj} = C_d \frac{X_{CO2}}{\%CO_2} \quad (Eq. 4)$$

Where:

$C_{adj}$ = Calculated concentration of CO, THC, or formaldehyde adjusted to 15 percent $O_2$.

$C_d$ = Measured concentration of CO, THC, or formaldehyde, uncorrected.

$X_{CO2}$ = $CO_2$ correction factor, percent.

%$CO_2$ = Measured $CO_2$ concentration measured, dry basis, percent.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

[69 FR 33506, June 15, 2004, as amended at 75 FR 9676, Mar. 3, 2010; 78 FR 6702, Jan. 30, 2013]

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

(a) If you elect to install a CEMS as specified in Table 5 of this subpart, you must install, operate, and maintain a CEMS to monitor CO and either $O_2$ or $CO_2$ according to the requirements in paragraphs (a)(1) through (4) of this section. If you are meeting a requirement to reduce CO emissions, the CEMS must be installed at both the inlet and outlet of the control device. If you are meeting a requirement to limit the concentration of CO, the CEMS must be installed at the outlet of the control device.

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

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

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

(4) The CEMS data must be reduced as specified in § 63.8(g)(2) and recorded in parts per million or parts per billion (as appropriate for the applicable limitation) at 15 percent oxygen or the equivalent $CO_2$ concentration.

(b) If you are required to install a continuous parameter monitoring system (CPMS) as specified in Table 5 of this subpart, you must install, operate, and maintain each CPMS according to the requirements in paragraphs (b)(1) through (6) of this section. For an affected source that is complying with the emission limitations and operating limitations on March 9, 2011, the requirements in paragraph (b) of this section are applicable September 6, 2011.

(1) You must prepare a site-specific monitoring plan that addresses the monitoring system design, data collection, and the quality assurance and quality control elements outlined in paragraphs (b)(1)(i) through (v) of this section and in § 63.8(d). As specified in § 63.8(f)(4), you may request approval of monitoring system quality assurance and quality control procedures alternative to those specified in paragraphs (b)(1) through (5) of this section in your site-specific monitoring plan.

(i) The performance criteria and design specifications for the monitoring system equipment, including the sample interface, detector signal analyzer, and data acquisition and calculations;

(ii) Sampling interface ( *e.g.,* thermocouple) location such that the monitoring system will provide representative measurements;

(iii) Equipment performance evaluations, system accuracy audits, or other audit procedures;

(iv) Ongoing operation and maintenance procedures in accordance with provisions in § 63.8(c)(1)(ii) and (c)(3); and

(v) Ongoing reporting and recordkeeping procedures in accordance with provisions in § 63.10(c), (e)(1), and (e)(2)(i).

(2) You must install, operate, and maintain each CPMS in continuous operation according to the procedures in your site-specific monitoring plan.

(3) The CPMS must collect data at least once every 15 minutes (see also § 63.6635).

(4) For a CPMS for measuring temperature range, the temperature sensor must have a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit) or 1 percent of the measurement range, whichever is larger.

(5) You must conduct the CPMS equipment performance evaluation, system accuracy audits, or other audit procedures specified in your site-specific monitoring plan at least annually.

(6) You must conduct a performance evaluation of each CPMS in accordance with your site-specific monitoring plan.

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

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

(e) If you own or operate any of the following stationary RICE, you must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions:

(1) An existing stationary RICE with a site rating of less than 100 HP located at a major source of HAP emissions;

(2) An existing emergency or black start stationary RICE with a site rating of less than or equal to 500 HP located at a major source of HAP emissions;

(3) An existing emergency or black start stationary RICE located at an area source of HAP emissions;

(4) An existing non-emergency, non-black start stationary CI RICE with a site rating less than or equal to 300 HP located at an area source of HAP emissions;

(5) An existing non-emergency, non-black start 2SLB stationary RICE located at an area source of HAP emissions;

(6) An existing non-emergency, non-black start stationary RICE located at an area source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis.

(7) An existing non-emergency, non-black start 4SLB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions;

(8) An existing non-emergency, non-black start 4SRB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions;

(9) An existing, non-emergency, non-black start 4SLB stationary RICE with a site rating greater than 500 HP located at an area source of HAP emissions that is operated 24 hours or less per calendar year; and

(10) An existing, non-emergency, non-black start 4SRB stationary RICE with a site rating greater than 500 HP located at an area source of HAP emissions that is operated 24 hours or less per calendar year.

(f) If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing emergency stationary RICE located at an area source of HAP emissions, you must install a non-resettable hour meter if one is not already installed.

(g) If you own or operate an existing non-emergency, non-black start CI engine greater than or equal to 300 HP that is not equipped with a closed crankcase ventilation system, you must comply with either paragraph (g)(1) or paragraph (2) of this section. Owners and operators must follow the manufacturer's specified maintenance requirements for operating and maintaining the open or closed crankcase ventilation systems and replacing the crankcase filters, or can request the Administrator to approve different maintenance requirements that are as protective as manufacturer requirements. Existing CI engines located at area sources in areas of Alaska that meet either § 63.6603(b)(1) or § 63.6603(b)(2) do not have to meet the requirements of this paragraph (g). Existing CI engines located on offshore vessels that meet § 63.6603(c) do not have to meet the requirements of this paragraph (g).

(1) Install a closed crankcase ventilation system that prevents crankcase emissions from being emitted to the atmosphere, or

(2) Install an open crankcase filtration emission control system that reduces emissions from the crankcase by filtering the exhaust stream to remove oil mist, particulates and metals.

(h) If you operate a new, reconstructed, or existing stationary engine, you must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup in Tables 1a, 2a, 2c, and 2d to this subpart apply.

(i) If you own or operate a stationary CI engine that is subject to the work, operation or management practices in items 1 or 2 of Table 2c to this subpart or in items 1 or 4 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from

the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 business days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

(j) If you own or operate a stationary SI engine that is subject to the work, operation or management practices in items 6, 7, or 8 of Table 2c to this subpart or in items 5, 6, 7, 9, or 11 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 business days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3606, Jan. 18, 2008; 75 FR 9676, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010; 76 FR 12866, Mar. 9, 2011; 78 FR 6703, Jan. 30, 2013]

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

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

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

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

(d) Non-emergency 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 76 percent or more can demonstrate initial compliance with the formaldehyde emission limit by testing for THC instead of formaldehyde. The testing must be conducted according to the requirements in Table 4 of this subpart. The average reduction of emissions of THC determined from the performance test must be equal to or greater than 30 percent.

(e) The initial compliance demonstration required for existing non-emergency 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year must be conducted according to the following requirements:

(1) The compliance demonstration must consist of at least three test runs.

(2) Each test run must be of at least 15 minute duration, except that each test conducted using the method in appendix A to this subpart must consist of at least one measurement cycle and include at least 2 minutes of test data phase measurement.

(3) If you are demonstrating compliance with the CO concentration or CO percent reduction requirement, you must measure CO emissions using one of the CO measurement methods specified in Table 4 of this subpart, or using appendix A to this subpart.

(4) If you are demonstrating compliance with the THC percent reduction requirement, you must measure THC emissions using Method 25A, reported as propane, of 40 CFR part 60, appendix A.

(5) You must measure $O_2$ using one of the $O_2$ measurement methods specified in Table 4 of this subpart. Measurements to determine $O_2$ concentration must be made at the same time as the measurements for CO or THC concentration.

(6) If you are demonstrating compliance with the CO or THC percent reduction requirement, you must measure CO or THC emissions and $O_2$ emissions simultaneously at the inlet and outlet of the control device.

[69 FR 33506, June 15, 2004, as amended at 78 FR 6704, Jan. 30, 2013]

**Continuous Compliance Requirements**

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

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

(b) Except for monitor malfunctions, associated repairs, required performance evaluations, and required quality assurance or control activities, you must monitor continuously at all times that the stationary RICE is operating. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

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

[69 FR 33506, June 15, 2004, as amended at 76 FR 12867, Mar. 9, 2011]

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

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

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

(c) The annual compliance demonstration required for existing non-emergency 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year must be conducted according to the following requirements:

(1) The compliance demonstration must consist of at least one test run.

(2) Each test run must be of at least 15 minute duration, except that each test conducted using the method in appendix A to this subpart must consist of at least one measurement cycle and include at least 2 minutes of test data phase measurement.

(3) If you are demonstrating compliance with the CO concentration or CO percent reduction requirement, you must measure CO emissions using one of the CO measurement methods specified in Table 4 of this subpart, or using appendix A to this subpart.

(4) If you are demonstrating compliance with the THC percent reduction requirement, you must measure THC emissions using Method 25A, reported as propane, of 40 CFR part 60, appendix A.

(5) You must measure $O_2$ using one of the $O_2$ measurement methods specified in Table 4 of this subpart. Measurements to determine $O_2$ concentration must be made at the same time as the measurements for CO or THC concentration.

(6) If you are demonstrating compliance with the CO or THC percent reduction requirement, you must measure CO or THC emissions and $O_2$ emissions simultaneously at the inlet and outlet of the control device.

(7) If the results of the annual compliance demonstration show that the emissions exceed the levels specified in Table 6 of this subpart, the stationary RICE must be shut down as soon as safely possible, and appropriate corrective action must be taken (e.g., repairs, catalyst cleaning, catalyst replacement). The stationary RICE must be retested within 7 days of being restarted and the emissions must meet the levels specified in Table 6 of this subpart. If the retest shows that the emissions continue to exceed the specified levels, the stationary RICE must again be shut down as soon as safely possible, and the stationary RICE may not operate, except for purposes of startup and testing, until the owner/operator demonstrates through testing that the emissions do not exceed the levels specified in Table 6 of this subpart.

(d) For new, reconstructed, and rebuilt stationary RICE, deviations from the emission or operating limitations that occur during the first 200 hours of operation from engine startup (engine burn-in period) are not violations. Rebuilt stationary RICE means a stationary RICE that has been rebuilt as that term is defined in 40 CFR 94.11(a).

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

(f) If you own or operate an emergency stationary RICE, you must operate the emergency stationary RICE according to the requirements in paragraphs (f)(1) through (4) of this section. In order for the engine to be considered an emergency stationary RICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (4) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (4) of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.

(1) There is no time limit on the use of emergency stationary RICE in emergency situations.

(2) You may operate your emergency stationary RICE for any combination of the purposes specified in paragraphs (f)(2)(i) through (iii) of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraphs (f)(3) and (4) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).

(i) Emergency stationary RICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional

transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency RICE beyond 100 hours per calendar year.

(ii) Emergency stationary RICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see § 63.14), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.

(iii) Emergency stationary RICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

(3) Emergency stationary RICE located at major sources of HAP may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. The 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(4) Emergency stationary RICE located at area sources of HAP may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. Except as provided in paragraphs (f)(4)(i) and (ii) of this section, the 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(i) Prior to May 3, 2014, the 50 hours per year for non-emergency situations can be used for peak shaving or non-emergency demand response to generate income for a facility, or to otherwise supply power as part of a financial arrangement with another entity if the engine is operated as part of a peak shaving (load management program) with the local distribution system operator and the power is provided only to the facility itself or to support the local distribution system.

(ii) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:

(A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator.

(B) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.

(C) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.

(D) The power is provided only to the facility itself or to support the local transmission and distribution system.

(E) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3606, Jan. 18, 2008; 75 FR 9676, Mar. 3, 2010; 75 FR 51591, Aug. 20, 2010; 78 FR 6704, Jan. 30, 2013]

**Notifications, Reports, and Records**

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

(a) You must submit all of the notifications in §§ 63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), and (g) and (h) that apply to you by the dates specified if you own or operate any of the following;

(1) An existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions.

(2) An existing stationary RICE located at an area source of HAP emissions.

(3) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(4) A new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 HP located at a major source of HAP emissions.

(5) This requirement does not apply if you own or operate an existing stationary RICE less than 100 HP, an existing stationary emergency RICE, or an existing stationary RICE that is not subject to any numerical emission standards.

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

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

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

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

(f) If you are required to submit an Initial Notification but are otherwise not affected by the requirements of this subpart, in accordance with § 63.6590(b), your notification should include the information in § 63.9(b)(2)(i) through (v), and a statement that your stationary RICE has no additional requirements and explain the basis of the exclusion (for example, that it operates exclusively as an emergency stationary RICE if it has a site rating of more than 500 brake HP located at a major source of HAP emissions).

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

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

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

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

(i) If you own or operate an existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions that is certified to the Tier 1 or Tier 2 emission standards in Table 1 of 40 CFR 89.112 and subject to an enforceable state or local standard requiring engine replacement and you intend to meet management practices rather than emission limits, as specified in § 63.6603(d), you must submit a notification by March 3, 2013, stating that you intend to use the provision in § 63.6603(d) and identifying the state or local regulation that the engine is subject to.

[73 FR 3606, Jan. 18, 2008, as amended at 75 FR 9677, Mar. 3, 2010; 75 FR 51591, Aug. 20, 2010; 78 FR 6705, Jan. 30, 2013]

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

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

(b) Unless the Administrator has approved a different schedule for submission of reports under § 63.10(a), you must submit each report by the date in Table 7 of this subpart and according to the requirements in paragraphs (b)(1) through (b)(9) of this section.

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

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

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

(4) For semiannual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

(5) For each stationary RICE that is subject to permitting regulations pursuant to 40 CFR part 70 or 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6 (a)(3)(iii)(A), you may submit the first and subsequent Compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (b)(4) of this section.

(6) For annual Compliance reports, the first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in § 63.6595 and ending on December 31.

(7) For annual Compliance reports, the first Compliance report must be postmarked or delivered no later than January 31 following the end of the first calendar year after the compliance date that is specified for your affected source in § 63.6595.

(8) For annual Compliance reports, each subsequent Compliance report must cover the annual reporting period from January 1 through December 31.

(9) For annual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than January 31.

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

(1) Company name and address.

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

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

(4) If you had a malfunction during the reporting period, the compliance report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with § 63.6605(b), including actions taken to correct a malfunction.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(9) A brief description of the stationary RICE.

(10) A brief description of the CMS.

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

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

(f) Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 71 must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6 (a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a Compliance report pursuant to Table 7 of this subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the Compliance report includes all required information concerning deviations from any emission or operating limitation in this subpart, submission of the Compliance report shall be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a Compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority.

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

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

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

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

(h) If you own or operate an emergency stationary RICE with a site rating of more than 100 brake HP that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in § 63.6640(f)(2)(ii) and (iii) or that operates for the purpose specified in § 63.6640(f)(4)(ii), you must submit an annual report according to the requirements in paragraphs (h)(1) through (3) of this section.

(1) The report must contain the following information:

(i) Company name and address where the engine is located.

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

(iii) Engine site rating and model year.

(iv) Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place.

(v) Hours operated for the purposes specified in § 63.6640(f)(2)(ii) and (iii), including the date, start time, and end time for engine operation for the purposes specified in § 63.6640(f)(2)(ii) and (iii).

(vi) Number of hours the engine is contractually obligated to be available for the purposes specified in § 63.6640(f)(2)(ii) and (iii).

(vii) Hours spent for operation for the purpose specified in § 63.6640(f)(4)(ii), including the date, start time, and end time for engine operation for the purposes specified in § 63.6640(f)(4)(ii). The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine.

(viii) If there were no deviations from the fuel requirements in § 63.6604 that apply to the engine (if any), a statement that there were no deviations from the fuel requirements during the reporting period.

(ix) If there were deviations from the fuel requirements in § 63.6604 that apply to the engine (if any), information on the number, duration, and cause of deviations, and the corrective action taken.

(2) The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year.

(3) The annual report must be submitted electronically using the subpart specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) ( *www.epa.gov/cdx* ). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written report must be submitted to the Administrator at the appropriate address listed in § 63.13.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9677, Mar. 3, 2010; 78 FR 6705, Jan. 30, 2013]

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

(a) If you must comply with the emission and operating limitations, you must keep the records described in paragraphs (a)(1) through (a)(5), (b)(1) through (b)(3) and (c) of this section.

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

(2) Records of the occurrence and duration of each malfunction of operation ( *i.e.,* process equipment) or the air pollution control and monitoring equipment.

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

(4) Records of all required maintenance performed on the air pollution control and monitoring equipment.

(5) Records of actions taken during periods of malfunction to minimize emissions in accordance with § 63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

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

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

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

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

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

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

(e) You must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan if you own or operate any of the following stationary RICE;

(1) An existing stationary RICE with a site rating of less than 100 brake HP located at a major source of HAP emissions.

(2) An existing stationary emergency RICE.

(3) An existing stationary RICE located at an area source of HAP emissions subject to management practices as shown in Table 2d to this subpart.

(f) If you own or operate any of the stationary RICE in paragraphs (f)(1) through (2) of this section, you must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engine is used for the purposes specified in § 63.6640(f)(2)(ii) or (iii) or § 63.6640(f)(4)(ii), the owner or operator must keep records of the notification of the emergency situation, and the date, start time, and end time of engine operation for these purposes.

(1) An existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions that does not meet the standards applicable to non-emergency engines.

(2) An existing emergency stationary RICE located at an area source of HAP emissions that does not meet the standards applicable to non-emergency engines.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9678, Mar. 3, 2010; 75 FR 51592, Aug. 20, 2010; 78 FR 6706, Jan. 30, 2013]

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

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

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

(c) You must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to § 63.10(b)(1).

[69 FR 33506, June 15, 2004, as amended at 75 FR 9678, Mar. 3, 2010]

**Other Requirements and Information**

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

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

[75 FR 9678, Mar. 3, 2010]

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

(a) This subpart is implemented and enforced by the U.S. EPA, or a delegated authority such as your State, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency (as well as the U.S. EPA) has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out whether this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the State, local, or tribal agency.

(c) The authorities that will not be delegated to State, local, or tribal agencies are:

(1) Approval of alternatives to the non-opacity emission limitations and operating limitations in § 63.6600 under § 63.6(g).

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

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

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

(5) Approval of a performance test which was conducted prior to the effective date of the rule, as specified in § 63.6610(b).

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

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

*Alaska Railbelt Grid* means the service areas of the six regulated public utilities that extend from Fairbanks to Anchorage and the Kenai Peninsula. These utilities are Golden Valley Electric Association; Chugach Electric Association; Matanuska Electric Association; Homer Electric Association; Anchorage Municipal Light & Power; and the City of Seward Electric System.

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

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

*Backup power for renewable energy* means an engine that provides backup power to a facility that generates electricity from renewable energy resources, as that term is defined in Alaska Statute 42.45.045(l)(5) (incorporated by reference, see § 63.14).

*Black start engine* means an engine whose only purpose is to start up a combustion turbine.

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

*Commercial emergency stationary RICE* means an emergency stationary RICE used in commercial establishments such as office buildings, hotels, stores, telecommunications facilities, restaurants, financial institutions such as banks, doctor's offices, and sports and performing arts facilities.

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

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

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

(1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limitation or operating limitation;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emission limitation or operating limitation in this subpart during malfunction, regardless or whether or not such failure is permitted by this subpart.

(4) Fails to satisfy the general duty to minimize emissions established by § 63.6(e)(1)(i).

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

*Diesel fuel* means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is fuel oil number 2. Diesel fuel also includes any non-distillate fuel with comparable physical and chemical properties ( *e.g.* biodiesel) that is suitable for use in compression ignition engines.

*Digester gas* means any gaseous by-product of wastewater treatment typically formed through the anaerobic decomposition of organic waste materials and composed principally of methane and $CO_2$ .

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

*Emergency stationary RICE* means any stationary reciprocating internal combustion engine that meets all of the criteria in paragraphs (1) through (3) of this definition. All emergency stationary RICE must comply with the requirements specified in § 63.6640(f) in order to be considered emergency stationary RICE. If the engine does not comply with the requirements specified in § 63.6640(f), then it is not considered to be an emergency stationary RICE under this subpart.

(1) The stationary RICE is operated to provide electrical power or mechanical work during an emergency situation. Examples include stationary RICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary RICE used to pump water in the case of fire or flood, etc.

(2) The stationary RICE is operated under limited circumstances for situations not included in paragraph (1) of this definition, as specified in § 63.6640(f).

(3) The stationary RICE operates as part of a financial arrangement with another entity in situations not included in paragraph (1) of this definition only as allowed in § 63.6640(f)(2)(ii) or (iii) and § 63.6640(f)(4)(i) or (ii).

*Engine startup* means the time from initial start until applied load and engine and associated equipment reaches steady state or normal operation. For stationary engine with catalytic controls, engine startup means the time from initial start until applied load and engine and associated equipment, including the catalyst, reaches steady state or normal operation.

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

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

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

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

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

*Institutional emergency stationary RICE* means an emergency stationary RICE used in institutional establishments such as medical centers, nursing homes, research centers, institutions of higher education, correctional facilities, elementary and secondary schools, libraries, religious establishments, police stations, and fire stations.

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

*Landfill gas* means a gaseous by-product of the land application of municipal refuse typically formed through the anaerobic decomposition of waste materials and composed principally of methane and $CO_2$ .

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

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

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

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

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

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

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

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

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

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

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

*Non-selective catalytic reduction (NSCR)* means an add-on catalytic nitrogen oxides ($NO_X$ ) control device for rich burn engines that, in a two-step reaction, promotes the conversion of excess oxygen, $NO_X$ , CO, and volatile organic compounds (VOC) into $CO_2$ , nitrogen, and water.

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

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

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

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

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

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

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

*Propane* means a colorless gas derived from petroleum and natural gas, with the molecular structure $C_3 H_8$ .

*Remote stationary RICE* means stationary RICE meeting any of the following criteria:

(1) Stationary RICE located in an offshore area that is beyond the line of ordinary low water along that portion of the coast of the United States that is in direct contact with the open seas and beyond the line marking the seaward limit of inland waters.

(2) Stationary RICE located on a pipeline segment that meets both of the criteria in paragraphs (2)(i) and (ii) of this definition.

(i) A pipeline segment with 10 or fewer buildings intended for human occupancy and no buildings with four or more stories within 220 yards (200 meters) on either side of the centerline of any continuous 1-mile (1.6 kilometers) length of pipeline. Each separate dwelling unit in a multiple dwelling unit building is counted as a separate building intended for human occupancy.

(ii) The pipeline segment does not lie within 100 yards (91 meters) of either a building or a small, well-defined outside area (such as a playground, recreation area, outdoor theater, or other place of public assembly) that is occupied by 20 or more persons on at least 5 days a week for 10 weeks in any 12-month period. The days and weeks need not be consecutive. The building or area is considered occupied for a full day if it is occupied for any portion of the day.

(iii) For purposes of this paragraph (2), the term pipeline segment means all parts of those physical facilities through which gas moves in transportation, including but not limited to pipe, valves, and other appurtenance attached to pipe, compressor units, metering stations, regulator stations, delivery stations, holders, and fabricated assemblies. Stationary RICE located within 50 yards (46 meters) of the pipeline segment providing power for equipment on a pipeline segment are part of the pipeline segment. Transportation of gas means the gathering, transmission, or distribution of gas by pipeline, or the storage of gas. A building is intended for human occupancy if its primary use is for a purpose involving the presence of humans.

(3) Stationary RICE that are not located on gas pipelines and that have 5 or fewer buildings intended for human occupancy and no buildings with four or more stories within a 0.25 mile radius around the engine. A building is intended for human occupancy if its primary use is for a purpose involving the presence of humans.

*Residential emergency stationary RICE* means an emergency stationary RICE used in residential establishments such as homes or apartment buildings.

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

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

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

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

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

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

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

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

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

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

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

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

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3607, Jan. 18, 2008; 75 FR 9679, Mar. 3, 2010; 75 FR 51592, Aug. 20, 2010; 76 FR 12867, Mar. 9, 2011; 78 FR 6706, Jan. 30, 2013]

**Table 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 $O_2$ | |

[1]Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[75 FR 9679, Mar. 3, 2010, as amended at 75 FR 51592, Aug. 20, 2010]

**Table 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<br>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<br>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<br>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<br>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]<br>b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary;<br>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]<br>b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary;<br>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<br>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<br>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]<br>b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first, and replace as necessary;<br>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]<br>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]<br>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]<br>b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary;<br>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]<br>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.

[78 FR 6711, Jan. 30, 2013]

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

As stated in §§ 63.6612, 63.6625 and 63.6630, you must initially comply with the emission and operating limitations as required by the following:

| For each . . . | Complying with the requirement to . . . | You have demonstrated initial compliance if . . . |
|---|---|---|
| 1. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP | a. Reduce CO emissions and using oxidation catalyst, and using a CPMS | i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and<br>ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in § 63.6625(b); and<br>iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test. |
| 2. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP | a. Limit the concentration of CO, using oxidation catalyst, and using a CPMS | i. The average CO concentration determined from the initial performance test is less than or equal to the CO emission limitation; and |
| | | ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in § 63.6625(b); and |
| | | iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test. |
| 3. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP | a. Reduce CO emissions and not using oxidation catalyst | i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and<br>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<br>iii. You have recorded the approved operating parameters (if any) during the initial performance test. |
| 4. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP | a. Limit the concentration of CO, and not using oxidation catalyst | i. The average CO concentration determined from the initial performance test is less than or equal to the CO emission limitation; and<br>ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in § 63.6625(b); and |
| | | iii. You have recorded the approved operating parameters (if any) during the initial performance test. |

| For each . . . | Complying with the requirement to . . . | You have demonstrated initial compliance if . . . |
|---|---|---|
| 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<br>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<br>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<br>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<br>ii. Collecting the catalyst inlet temperature data according to § 63.6625(b); and<br>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<br>ii. Collecting the approved operating parameter (if any) data according to § 63.6625(b); and<br>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<br>ii. Demonstrating that the catalyst achieves the required percent reduction of CO emissions over the 4-hour averaging period, or that the emission remain at or below the CO concentration limit; and |
| | | iii. Conducting an annual RATA of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B, as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1. |
| 4. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP | a. Reduce formaldehyde emissions and using NSCR | i. Collecting the catalyst inlet temperature data according to § 63.6625(b); and |
| | | ii. Reducing these data to 4-hour rolling averages; and |
| | | iii. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and |
| | | iv. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test. |
| 5. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP | a. Reduce formaldehyde emissions and not using NSCR | i. Collecting the approved operating parameter (if any) data according to § 63.6625(b); and |
| | | ii. Reducing these data to 4-hour rolling averages; and |
| | | iii. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test. |

| For each . . . | Complying with the requirement to . . . | You must demonstrate continuous compliance by . . . |
|---|---|---|
| 6. Non-emergency 4SRB stationary RICE with a brake HP ≥5,000 located at a major source of HAP | a. Reduce formaldehyde emissions | Conducting semiannual performance tests for formaldehyde to demonstrate that the required formaldehyde percent reduction is achieved, or to demonstrate that the average reduction of emissions of THC determined from the performance test is equal to or greater than 30 percent.[a] |
| 7. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP | a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR | i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit [a]; and<br>ii. Collecting the catalyst inlet temperature data according to § 63.6625(b); and |
| | | iii. Reducing these data to 4-hour rolling averages; and |
| | | iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and |
| | | v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test. |
| 8. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP | a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR | i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit [a]; and<br>ii. Collecting the approved operating parameter (if any) data according to § 63.6625(b); and |
| | | iii. Reducing these data to 4-hour rolling averages; and |
| | | iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test. |

| For each . . . | Complying with the requirement to . . . | You must demonstrate continuous compliance by . . . |
|---|---|---|
| 9. Existing emergency and black start stationary RICE ≤500 HP located at a major source of HAP, existing non-emergency stationary RICE <100 HP located at a major source of HAP, existing emergency and black start stationary RICE located at an area source of HAP, existing non-emergency stationary CI RICE ≤300 HP located at an area source of HAP, existing non-emergency 2SLB stationary RICE located at an area source of HAP, existing non-emergency stationary SI RICE located at an area source of HAP which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, existing non-emergency 4SLB and 4SRB stationary RICE ≤500 HP located at an area source of HAP, existing non-emergency 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate 24 hours or less per calendar year, and existing non-emergency 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that are remote stationary RICE | a. Work or Management practices | i. Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or<br>ii. Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. |
| 10. Existing stationary CI RICE >500 HP that are not limited use stationary RICE | a. Reduce CO emissions, or limit the concentration of CO in the stationary RICE exhaust, and using oxidation catalyst | i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and |
| | | ii. Collecting the catalyst inlet temperature data according to § 63.6625(b); and |
| | | iii. Reducing these data to 4-hour rolling averages; and |
| | | iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and |
| | | v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test. |
| 11. Existing stationary CI RICE >500 HP that are not limited use stationary RICE | a. Reduce CO emissions, or limit the concentration of CO in the stationary RICE exhaust, and not using oxidation catalyst | i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and |
| | | ii. Collecting the approved operating parameter (if any) data according to § 63.6625(b); and |

| 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 . . . |
|---|---|---|
| 14. Existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year | a. Install an oxidation catalyst | i. Conducting annual compliance demonstrations as specified in § 63.6640(c) to show that the average reduction of emissions of CO is 93 percent or more, or the average CO concentration is less than or equal to 47 ppmvd at 15 percent $O_2$; and either<br>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<br>iii. Immediately shutting down the engine if the catalyst inlet temperature exceeds 1350 °F. |
| 15. Existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year | a. Install NSCR | i. Conducting annual compliance demonstrations as specified in § 63.6640(c) to show that the average reduction of emissions of CO is 75 percent or more, the average CO concentration is less than or equal to 270 ppmvd at 15 percent $O_2$,or the average reduction of emissions of THC is 30 percent or more; and either<br>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<br>iii. Immediately shutting down the engine if the catalyst inlet temperature exceeds 1250 °F. |

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

[78 FR 6715, Jan. 30, 2013]

**Table 7 to Subpart ZZZZ of Part 63—Requirements for Reports**

As stated in § 63.6650, you must comply with the following requirements for reports:

| For each . . . | You must submit a . . . | The report must contain . . . | You must submit the report . . . |
|---|---|---|---|
| 1. Existing non-emergency, non-black start stationary RICE 100≤HP≤500 located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE >500 HP located at a major source of HAP; existing non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE >300 HP located at an area source of HAP; new or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP; and new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP | Compliance report | a. If there are no deviations from any emission limitations or operating limitations that apply to you, a statement that there were no deviations from the emission limitations or operating limitations during the reporting period. If there were no periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in § 63.8(c)(7), a statement that there were not periods during which the CMS was out-of-control during the reporting period; or | i. Semiannually according to the requirements in § 63.6650(b)(1)-(5) for engines that are not limited use stationary RICE subject to numerical emission limitations; and<br>ii. Annually according to the requirements in § 63.6650(b)(6)-(9) for engines that are limited use stationary RICE subject to numerical emission limitations. |
| | | b. If you had a deviation from any emission limitation or operating limitation during the reporting period, the information in § 63.6650(d). If there were periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in § 63.8(c)(7), the information in § 63.6650(e); or | i. Semiannually according to the requirements in § 63.6650(b). |
| | | c. If you had a malfunction during the reporting period, the information in § 63.6650(c)(4). | i. Semiannually according to the requirements in § 63.6650(b). |
| 2. New or reconstructed non-emergency stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis | Report | a. The fuel flow rate of each fuel and the heating values that were used in your calculations, and you must demonstrate that the percentage of heat input provided by landfill gas or digester gas, is equivalent to 10 percent or more of the gross heat input on an annual basis; and | i. Annually, according to the requirements in § 63.6650. |
| | | b. The operating limits provided in your federally enforceable permit, and any deviations from these limits; and | i. See item 2.a.i. |
| | | c. Any problems or errors suspected with the meters. | i. See item 2.a.i. |
| 3. Existing non-emergency, non-black start 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that operate more than 24 hours per calendar year | Compliance report | a. The results of the annual compliance demonstration, if conducted during the reporting period. | i. Semiannually according to the requirements in § 63.6650(b)(1)-(5). |

| 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 ($O_2$ ) concentrations in controlled and uncontrolled emissions from existing stationary 4-stroke lean burn and 4-stroke rich burn reciprocating internal combustion engines as specified in the applicable rule.

*1.1 Analytes. What does this protocol determine?*

This protocol measures the engine exhaust gas concentrations of carbon monoxide (CO) and oxygen ($O_2$ ).

| Analyte | CAS No. | Sensitivity |
|---|---|---|
| Carbon monoxide (CO) | 630-08-0 | Minimum detectable limit should be 2 percent of the nominal range or 1 ppm, whichever is less restrictive. |
| Oxygen ($O_2$) | *7782-44-7* | |

*1.2 Applicability. When is this protocol acceptable?*

This protocol is applicable to 40 CFR part 63, subpart ZZZZ. Because of inherent cross sensitivities of EC cells, you must not apply this protocol to other emissions sources without specific instruction to that effect.

*1.3 Data Quality Objectives. How good must my collected data be?*

Refer to Section 13 to verify and document acceptable analyzer performance.

*1.4 Range. What is the targeted analytical range for this protocol?*

The measurement system and EC cell design(s) conforming to this protocol will determine the analytical range for each gas component. The nominal ranges are defined by choosing up-scale calibration gas concentrations near the maximum anticipated flue gas concentrations for CO and $O_2$ , or no more than twice the permitted CO level.

*1.5 Sensitivity. What minimum detectable limit will this protocol yield for a particular gas component?*

The minimum detectable limit depends on the nominal range and resolution of the specific EC cell used, and the signal to noise ratio of the measurement system. The minimum detectable limit should be 2 percent of the nominal range or 1 ppm, whichever is less restrictive.

2.0 Summary of Protocol

In this protocol, a gas sample is extracted from an engine exhaust system and then conveyed to a portable EC analyzer for measurement of CO and $O_2$ gas concentrations. This method provides measurement system performance specifications and sampling protocols to ensure reliable data. You may use additions to, or modifications of vendor supplied measurement systems (e.g., heated or unheated sample lines, thermocouples, flow meters, selective gas scrubbers, etc.) to meet the design specifications of this protocol. Do not make changes to the measurement system from the as-verified configuration (Section 3.12).

3.0 Definitions

*3.1 Measurement System.* The total equipment required for the measurement of CO and $O_2$ concentrations. The measurement system consists of the following major subsystems:

*3.1.1 Data Recorder.* A strip chart recorder, computer or digital recorder for logging measurement data from the analyzer output. You may record measurement data from the digital data display manually or electronically.

*3.1.2 Electrochemical (EC) Cell.* A device, similar to a fuel cell, used to sense the presence of a specific analyte and generate an electrical current output proportional to the analyte concentration.

*3.1.3 Interference Gas Scrubber.* A device used to remove or neutralize chemical compounds that may interfere with the selective operation of an EC cell.

*3.1.4 Moisture Removal System.* Any device used to reduce the concentration of moisture in the sample stream so as to protect the EC cells from the damaging effects of condensation and to minimize errors in measurements caused by the scrubbing of soluble gases.

*3.1.5 Sample Interface.* The portion of the system used for one or more of the following: sample acquisition; sample transport; sample conditioning or protection of the EC cell from any degrading effects of the engine exhaust effluent; removal of particulate matter and condensed moisture.

*3.2 Nominal Range.* The range of analyte concentrations over which each EC cell is operated (normally 25 percent to 150 percent of up-scale calibration gas value). Several nominal ranges can be used for any given cell so long as the calibration and repeatability checks for that range remain within specifications.

*3.3 Calibration Gas.* A vendor certified concentration of a specific analyte in an appropriate balance gas.

*3.4 Zero Calibration Error.* The analyte concentration output exhibited by the EC cell in response to zero-level calibration gas.

*3.5 Up-Scale Calibration Error.* The mean of the difference between the analyte concentration exhibited by the EC cell and the certified concentration of the up-scale calibration gas.

*3.6 Interference Check.* A procedure for quantifying analytical interference from components in the engine exhaust gas other than the targeted analytes.

*3.7 Repeatability Check.* A protocol for demonstrating that an EC cell operated over a given nominal analyte concentration range provides a stable and consistent response and is not significantly affected by repeated exposure to that gas.

*3.8 Sample Flow Rate.* The flow rate of the gas sample as it passes through the EC cell. In some situations, EC cells can experience drift with changes in flow rate. The flow rate must be monitored and documented during all phases of a sampling run.

*3.9 Sampling Run.* A timed three-phase event whereby an EC cell's response rises and plateaus in a sample conditioning phase, remains relatively constant during a measurement data phase, then declines during a refresh phase. The sample conditioning phase exposes the EC cell to the gas sample for a length of time sufficient to reach a constant response. The measurement data phase is the time interval during which gas sample measurements can be made that meet the acceptance criteria of this protocol. The refresh phase then purges the EC cells with CO-free air. The refresh phase replenishes requisite $O_2$ and moisture in the electrolyte reserve and provides a mechanism to de-gas or desorb any interference gas scrubbers or filters so as to enable a stable CO EC cell response. There are four primary types of sampling runs: pre- sampling calibrations; stack gas sampling; post-sampling calibration checks; and measurement system repeatability checks. Stack gas sampling runs can be chained together for extended evaluations, providing all other procedural specifications are met.

*3.10 Sampling Day.* A time not to exceed twelve hours from the time of the pre-sampling calibration to the post-sampling calibration check. During this time, stack gas sampling runs can be repeated without repeated recalibrations, providing all other sampling specifications have been met.

*3.11 Pre-Sampling Calibration/Post-Sampling Calibration Check.* The protocols executed at the beginning and end of each sampling day to bracket measurement readings with controlled performance checks.

*3.12 Performance-Established Configuration.* The EC cell and sampling system configuration that existed at the time that it initially met the performance requirements of this protocol.

## 4.0 Interferences.

When present in sufficient concentrations, NO and $NO_2$ are two gas species that have been reported to interfere with CO concentration measurements. In the likelihood of this occurrence, it is the protocol user's responsibility to employ

and properly maintain an appropriate CO EC cell filter or scrubber for removal of these gases, as described in Section 6.2.12.

## 5.0 Safety. [Reserved]

## 6.0 Equipment and Supplies.

### *6.1 What equipment do I need for the measurement system?*

The system must maintain the gas sample at conditions that will prevent moisture condensation in the sample transport lines, both before and as the sample gas contacts the EC cells. The essential components of the measurement system are described below.

### 6.2 Measurement System Components.

*6.2.1 Sample Probe.* A single extraction-point probe constructed of glass, stainless steel or other non-reactive material, and of length sufficient to reach any designated sampling point. The sample probe must be designed to prevent plugging due to condensation or particulate matter.

*6.2.2 Sample Line.* Non-reactive tubing to transport the effluent from the sample probe to the EC cell.

*6.2.3 Calibration Assembly (optional).* A three-way valve assembly or equivalent to introduce calibration gases at ambient pressure at the exit end of the sample probe during calibration checks. The assembly must be designed such that only stack gas or calibration gas flows in the sample line and all gases flow through any gas path filters.

*6.2.4 Particulate Filter (optional).* Filters before the inlet of the EC cell to prevent accumulation of particulate material in the measurement system and extend the useful life of the components. All filters must be fabricated of materials that are non-reactive to the gas mixtures being sampled.

*6.2.5 Sample Pump.* A leak-free pump to provide undiluted sample gas to the system at a flow rate sufficient to minimize the response time of the measurement system. If located upstream of the EC cells, the pump must be constructed of a material that is non-reactive to the gas mixtures being sampled.

*6.2.8 Sample Flow Rate Monitoring.* An adjustable rotameter or equivalent device used to adjust and maintain the sample flow rate through the analyzer as prescribed.

*6.2.9 Sample Gas Manifold (optional).* A manifold to divert a portion of the sample gas stream to the analyzer and the remainder to a by-pass discharge vent. The sample gas manifold may also include provisions for introducing calibration gases directly to the analyzer. The manifold must be constructed of a material that is non-reactive to the gas mixtures being sampled.

*6.2.10 EC cell.* A device containing one or more EC cells to determine the CO and $O_2$ concentrations in the sample gas stream. The EC cell(s) must meet the applicable performance specifications of Section 13 of this protocol.

*6.2.11 Data Recorder.* A strip chart recorder, computer or digital recorder to make a record of analyzer output data. The data recorder resolution (i.e., readability) must be no greater than 1 ppm for CO; 0.1 percent for $O_2$ ; and one degree (either °C or °F) for temperature. Alternatively, you may use a digital or analog meter having the same resolution to observe and manually record the analyzer responses.

*6.2.12 Interference Gas Filter or Scrubber.* A device to remove interfering compounds upstream of the CO EC cell. Specific interference gas filters or scrubbers used in the performance-established configuration of the analyzer must continue to be used. Such a filter or scrubber must have a means to determine when the removal agent is exhausted. Periodically replace or replenish it in accordance with the manufacturer's recommendations.

7.0 Reagents and Standards. What calibration gases are needed?

*7.1 Calibration Gases.* CO calibration gases for the EC cell must be CO in nitrogen or CO in a mixture of nitrogen and $O_2$. Use CO calibration gases with labeled concentration values certified by the manufacturer to be within ± 5 percent of the label value. Dry ambient air (20.9 percent $O_2$ ) is acceptable for calibration of the $O_2$ cell. If needed, any lower percentage $O_2$ calibration gas must be a mixture of $O_2$ in nitrogen.

*7.1.1 Up-Scale CO Calibration Gas Concentration.* Choose one or more up-scale gas concentrations such that the average of the stack gas measurements for each stack gas sampling run are between 25 and 150 percent of those concentrations. Alternatively, choose an up-scale gas that does not exceed twice the concentration of the applicable outlet standard. If a measured gas value exceeds 150 percent of the up-scale CO calibration gas value at any time during the stack gas sampling run, the run must be discarded and repeated.

*7.1.2 Up-Scale $O_2$ Calibration Gas Concentration.*

Select an $O_2$ gas concentration such that the difference between the gas concentration and the average stack gas measurement or reading for each sample run is less than 15 percent $O_2$ . When the average exhaust gas $O_2$ readings are above 6 percent, you may use dry ambient air (20.9 percent $O_2$ ) for the up-scale $O_2$ calibration gas.

*7.1.3 Zero Gas.* Use an inert gas that contains less than 0.25 percent of the up-scale CO calibration gas concentration. You may use dry air that is free from ambient CO and other combustion gas products (e.g., $CO_2$ ).

8.0 Sample Collection and Analysis

8.1 Selection of Sampling Sites.

8.1.1 Control Device Inlet. Select a sampling site sufficiently downstream of the engine so that the combustion gases should be well mixed. Use a single sampling extraction point near the center of the duct (e.g., within the 10 percent centroidal area), unless instructed otherwise.

8.1.2 Exhaust Gas Outlet. Select a sampling site located at least two stack diameters downstream of any disturbance (e.g., turbocharger exhaust, crossover junction or recirculation take-off) and at least one-half stack diameter upstream of the gas discharge to the atmosphere. Use a single sampling extraction point near the center of the duct (e.g., within the 10 percent centroidal area), unless instructed otherwise.

8.2 Stack Gas Collection and Analysis. Prior to the first stack gas sampling run, conduct that the pre-sampling calibration in accordance with Section 10.1. Use Figure 1 to record all data. Zero the analyzer with zero gas. Confirm and record that the scrubber media color is correct and not exhausted. Then position the probe at the sampling point and begin the sampling run at the same flow rate used during the up-scale calibration. Record the start time. Record all EC cell output responses and the flow rate during the “sample conditioning phase” once per minute until constant readings are obtained. Then begin the “measurement data phase” and record readings every 15 seconds for at least two minutes (or eight readings), or as otherwise required to achieve two continuous minutes of data that meet the specification given in Section 13.1. Finally, perform the “refresh phase” by introducing dry air, free from CO and other combustion gases, until several minute-to-minute readings of consistent value have been obtained. For each run use the “measurement data phase” readings to calculate the average stack gas CO and $O_2$ concentrations.

8.3 EC Cell Rate. Maintain the EC cell sample flow rate so that it does not vary by more than ± 10 percent throughout the pre-sampling calibration, stack gas sampling and post-sampling calibration check. Alternatively, the EC cell sample flow rate can be maintained within a tolerance range that does not affect the gas concentration readings by more than ± 3 percent, as instructed by the EC cell manufacturer.

9.0 Quality Control (Reserved)

10.0 Calibration and Standardization

*10.1 Pre-Sampling Calibration.* Conduct the following protocol once for each nominal range to be used on each EC cell before performing a stack gas sampling run on each field sampling day. Repeat the calibration if you replace an

EC cell before completing all of the sampling runs. There is no prescribed order for calibration of the EC cells; however, each cell must complete the measurement data phase during calibration. Assemble the measurement system by following the manufacturer's recommended protocols including for preparing and preconditioning the EC cell. Assure the measurement system has no leaks and verify the gas scrubbing agent is not depleted. Use Figure 1 to record all data.

*10.1.1 Zero Calibration.* For both the $O_2$ and CO cells, introduce zero gas to the measurement system (e.g., at the calibration assembly) and record the concentration reading every minute until readings are constant for at least two consecutive minutes. Include the time and sample flow rate. Repeat the steps in this section at least once to verify the zero calibration for each component gas.

*10.1.2 Zero Calibration Tolerance.* For each zero gas introduction, the zero level output must be less than or equal to ± 3 percent of the up-scale gas value or ± 1 ppm, whichever is less restrictive, for the CO channel and less than or equal to ± 0.3 percent $O_2$ for the $O_2$ channel.

*10.1.3 Up-Scale Calibration.* Individually introduce each calibration gas to the measurement system (e.g., at the calibration assembly) and record the start time. Record all EC cell output responses and the flow rate during this “sample conditioning phase” once per minute until readings are constant for at least two minutes. Then begin the “measurement data phase” and record readings every 15 seconds for a total of two minutes, or as otherwise required. Finally, perform the “refresh phase” by introducing dry air, free from CO and other combustion gases, until readings are constant for at least two consecutive minutes. Then repeat the steps in this section at least once to verify the calibration for each component gas. Introduce all gases to flow through the entire sample handling system (i.e., at the exit end of the sampling probe or the calibration assembly).

*10.1.4 Up-Scale Calibration Error.* The mean of the difference of the “measurement data phase” readings from the reported standard gas value must be less than or equal to ± 5 percent or ± 1 ppm for CO or ± 0.5 percent $O_2$ , whichever is less restrictive, respectively. The maximum allowable deviation from the mean measured value of any single “measurement data phase” reading must be less than or equal to ± 2 percent or ± 1 ppm for CO or ± 0.5 percent $O_2$ , whichever is less restrictive, respectively.

*10.2 Post-Sampling Calibration Check.* Conduct a stack gas post-sampling calibration check after the stack gas sampling run or set of runs and within 12 hours of the initial calibration. Conduct up-scale and zero calibration checks using the protocol in Section 10.1. Make no changes to the sampling system or EC cell calibration until all post-sampling calibration checks have been recorded. If either the zero or up-scale calibration error exceeds the respective specification in Sections 10.1.2 and 10.1.4 then all measurement data collected since the previous successful calibrations are invalid and re-calibration and re-sampling are required. If the sampling system is disassembled or the EC cell calibration is adjusted, repeat the calibration check before conducting the next analyzer sampling run.

## 11.0 Analytical Procedure

The analytical procedure is fully discussed in Section 8.

## 12.0 Calculations and Data Analysis

Determine the CO and $O_2$ concentrations for each stack gas sampling run by calculating the mean gas concentrations of the data recorded during the “measurement data phase”.

## 13.0 Protocol Performance

Use the following protocols to verify consistent analyzer performance during each field sampling day.

*13.1 Measurement Data Phase Performance Check.* Calculate the mean of the readings from the “measurement data phase”. The maximum allowable deviation from the mean for each of the individual readings is ± 2 percent, or ± 1 ppm, whichever is less restrictive. Record the mean value and maximum deviation for each gas monitored. Data must conform to Section 10.1.4. The EC cell flow rate must conform to the specification in Section 8.3.

*Example: A measurement data phase is invalid if the maximum deviation of any single reading comprising that mean is greater than* ± 2 percent *or ± 1 ppm (the default criteria). For example, if the mean = 30 ppm, single readings of below 29 ppm and above 31 ppm are disallowed* ).

*13.2 Interference Check.* Before the initial use of the EC cell and interference gas scrubber in the field, and semi-annually thereafter, challenge the interference gas scrubber with NO and $NO_2$ gas standards that are generally recognized as representative of diesel-fueled engine NO and $NO_2$ emission values. Record the responses displayed by the CO EC cell and other pertinent data on Figure 1 or a similar form.

*13.2.1 Interference Response.* The combined NO and $NO_2$ interference response should be less than or equal to ± 5 percent of the up-scale CO calibration gas concentration.

*13.3 Repeatability Check.* Conduct the following check once for each nominal range that is to be used on the CO EC cell within 5 days prior to each field sampling program. If a field sampling program lasts longer than 5 days, repeat this check every 5 days. Immediately repeat the check if the EC cell is replaced or if the EC cell is exposed to gas concentrations greater than 150 percent of the highest up-scale gas concentration.

*13.3.1 Repeatability Check Procedure.* Perform a complete EC cell sampling run (all three phases) by introducing the CO calibration gas to the measurement system and record the response. Follow Section 10.1.3. Use Figure 1 to record all data. Repeat the run three times for a total of four complete runs. During the four repeatability check runs, do not adjust the system except where necessary to achieve the correct calibration gas flow rate at the analyzer.

*13.3.2 Repeatability Check Calculations.* Determine the highest and lowest average “measurement data phase” CO concentrations from the four repeatability check runs and record the results on Figure 1 or a similar form. The absolute value of the difference between the maximum and minimum average values recorded must not vary more than ± 3 percent or ± 1 ppm of the up-scale gas value, whichever is less restrictive.

## 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 | $O_2$ | CO | $O_2$ | CO | $O_2$ | CO | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Cond. Phase | | | | | | | | | | | |
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[78 FR 6721, Jan. 30, 2013]

**Attachment C to**
**Part 70 Operating Permit T169-25077-00003**

[Downloaded from the eCFR on May 13, 2013]

**Electronic Code of Federal Regulations**

**Title 40: Protection of Environment**

**Part 60, 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 ($O_2$ ), a CO emission standard 540 ppmvd at 15 percent $O_2$ (675 ppmvd at 15 percent $O_2$ for non-emergency engines less than 100 HP), and a VOC emission standard of 86 ppmvd at 15 percent $O_2$ , 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:

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

Where:

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

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

$1.912 \times 10^{-3}$ = 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:

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

Where:

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

$C_d$ = Measured CO concentration in ppmv.

$1.164\times10^{-3}$ = 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:

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

Where:

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

$C_d$ = VOC concentration measured as propane in ppmv.

$1.833\times10^{-3}$ = 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.

$$RF_i = \frac{C_{Mi}}{C_{Ai}} \qquad \text{(Eq. 4)}$$

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.

$$C_{imr} = RF_i \times C_{imw} \qquad \text{(Eq. 5)}$$

Where:

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

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

$$C_{Peq} = 0.6098 \times C_{i,corr} \qquad \text{(Eq. 6)}$$

Where:

$C_{Peq}$ = 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 ($CO_2$ ).

*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 $CO_2$ .

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

*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—NOX , 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 |
| | HP≥500 | 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 |
| | HP≥500 | 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 $O_2$.

[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 measurementfor $NO_X$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 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 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 measurementfor 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 $O_2$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 D to**
**Part 70 Operating Permit No: T169-25077-00003**

[Downloaded from the eCFR on August 13, 2013]

**Electronic Code of Federal Regulations**

**Title 40: Protection of Environment**

**PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES**

**Subpart UUU—Standards of Performance for Calciners and Dryers in Mineral Industries**

Source: 57 FR 44503, Sept. 28, 1992, unless otherwise noted.

**§ 60.730 Applicability and designation of affected facility.**

(a) The affected facility to which the provisions of this subpart apply is each calciner and dryer at a mineral processing plant. Feed and product conveyors are not considered part of the affected facility. For the brick and related clay products industry, only the calcining and drying of raw materials prior to firing of the brick are covered.

(b) An affected facility that is subject to the provisions of subpart LL, Metallic Mineral Processing Plants, is not subject to the provisions of this subpart. Also, the following processes and process units used at mineral processing plants are not subject to the provisions of this subpart: vertical shaft kilns in the magnesium compounds industry; the chlorination-oxidation process in the titanium dioxide industry; coating kilns, mixers, and aerators in the roofing granules industry; and tunnel kilns, tunnel dryers, apron dryers, and grinding equipment that also dries the process material used in any of the 17 mineral industries (as defined in § 60.731, “Mineral processing plant”).

(c) The owner or operator of any facility under paragraph (a) of this section that commences construction, modification, or reconstruction after April 23, 1986, is subject to the requirements of this subpart.

**§ 60.731 Definitions.**

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

*Calciner* means the equipment used to remove combined (chemically bound) water and/or gases from mineral material through direct or indirect heating. This definition includes expansion furnaces and multiple hearth furnaces.

*Control device* means the air pollution control equipment used to reduce particulate matter emissions released to the atmosphere from one or more affected facilities.

*Dryer* means the equipment used to remove uncombined (free) water from mineral material through direct or indirect heating.

*Installed in series* means a calciner and dryer installed such that the exhaust gases from one flow through the other and then the combined exhaust gases are discharged to the atmosphere.

*Mineral processing plant* means any facility that processes or produces any of the following minerals, their concentrates or any mixture of which the majority (>50 percent) is any of the following minerals or a combination of these minerals: alumina, ball clay, bentonite, diatomite, feldspar, fire clay, fuller's earth, gypsum, industrial sand, kaolin, lightweight aggregate, magnesium compounds, perlite, roofing granules, talc, titanium dioxide, and vermiculite.

**§ 60.732 Standards for particulate matter.**

Each owner or operator of any affected facility that is subject to the requirements of this subpart shall comply with the emission limitations set forth in this section on and after the date on which the initial performance test required by § 60.8 is completed, but not later than 180 days after the initial startup, whichever date comes first. No emissions shall be discharged into the atmosphere from any affected facility that:

(a) Contains particulate matter in excess of 0.092 gram per dry standard cubic meter (g/dscm) [0.040 grain per dry standard cubic foot (gr/dscf)] for calciners and for calciners and dryers installed in series and in excess of 0.057 g/dscm (0.025 gr/dscf) for dryers; and

(b) Exhibits greater than 10 percent opacity, unless the emissions are discharged from an affected facility using a wet scrubbing control device.

[57 FR 44503, Sept. 28, 1992, as amended at 65 FR 61778, Oct. 17, 2000]

**§ 60.733 Reconstruction.**

The cost of replacement of equipment subject to high temperatures and abrasion on processing equipment shall not be considered in calculating either the “fixed capital cost of the new components” or the “fixed capital cost that would be required to construct a comparable new facility” under § 60.15. Calciner and dryer equipment subject to high temperatures and abrasion are: end seals, flights, and refractory lining.

**§ 60.734 Monitoring of emissions and operations.**

(a) With the exception of the process units described in paragraphs (b), (c), and (d) of this section, the owner or operator of an affected facility subject to the provisions of this subpart who uses a dry control device to comply with the mass emission standard shall install, calibrate, maintain, and operate a continuous monitoring system to measure and record the opacity of emissions discharged into the atmosphere from the control device.

(b) In lieu of a continuous opacity monitoring system, the owner or operator of a ball clay vibrating grate dryer, a bentonite rotary dryer, a diatomite flash dryer, a diatomite rotary calciner, a feldspar rotary dryer, a fire clay rotary dryer, an industrial sand fluid bed dryer, a kaolin rotary calciner, a perlite rotary dryer, a roofing granules fluid bed dryer, a roofing granules rotary dryer, a talc rotary calciner, a titanium dioxide spray dryer, a titanium dioxide fluid bed dryer, a vermiculite fluid bed dryer, or a vermiculite rotary dryer who uses a dry control device may have a certified visible emissions observer measure and record three 6-minute averages of the opacity of visible emissions to the atmosphere each day of operation in accordance with Method 9 of appendix A of part 60.

(c) The owner or operator of a ball clay rotary dryer, a diatomite rotary dryer, a feldspar fluid bed dryer, a fuller's earth rotary dryer, a gypsum rotary dryer, a gypsum flash calciner, gypsum kettle calciner, an industrial sand rotary dryer, a kaolin rotary dryer, a kaolin multiple hearth furnace, a perlite expansion furnace, a talc flash dryer, a talc rotary dryer, a titanium dioxide direct or indirect rotary dryer or a vermiculite expansion furnace who uses a dry control device is exempt from the monitoring requirements of this section.

(d) The owner or operator of an affected facility subject to the provisions of this subpart who uses a wet scrubber to comply with the mass emission standard for any affected facility shall install, calibrate, maintain, and operate monitoring devices that continuously measure and record the pressure loss of the gas stream through the scrubber and the scrubbing liquid flow rate to the scrubber. The pressure loss monitoring device must be certified by the manufacturer to be accurate within 5 percent of water column gauge pressure at the level of operation. The liquid flow rate monitoring device must be certified by the manufacturer to be accurate within 5 percent of design scrubbing liquid flow rate.

**§ 60.735 Recordkeeping and reporting requirements.**

(a) Records of the measurements required in § 60.734 of this subpart shall be retained for at least 2 years.

(b) Each owner or operator who uses a wet scrubber to comply with § 60.732 shall determine and record once each day, from the recordings of the monitoring devices in § 60.734(d), an arithmetic average over a 2-hour period of both the change in pressure of the gas stream across the scrubber and the flowrate of the scrubbing liquid.

(c) Each owner or operator shall submit written reports semiannually of exceedances of control device operating parameters required to be monitored by § 60.734 of this subpart. For the purpose of these reports, exceedances are defined as follows:

(1) All 6-minute periods during which the average opacity from dry control devices is greater than 10 percent; or

(2) Any daily 2-hour average of the wet scrubber pressure drop determined as described in § 60.735(b) that is less than 90 percent of the average value recorded according to § 60.736(c) during the most recent performance test that demonstrated compliance with the particulate matter standard; or

(3) Each daily wet scrubber liquid flow rate recorded as described in § 60.735(b) that is less than 80 percent or greater than 120 percent of the average value recorded according to § 60.736(c) during the most recent performance test that demonstrated compliance with the particulate matter standard.

(d) The requirements of this section remain in force until and unless the Agency, in delegating enforcement authority to a State under section 111(c) of the Clean Air Act, approves reporting requirements or an alternative means of compliance surveillance adopted by such State. In that event, affected facilities within the State will be relieved of the obligation to comply with this section provided that they comply with the requirements established by the State.

[57 FR 44503, Sept. 28, 1992, as amended at 58 FR 40591, July 29, 1993]

**§ 60.736 Test methods and procedures.**

(a) In conducting the performance tests required in § 60.8, the owner or operator shall use the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in § 60.8(b).

(b) The owner or operator shall determine compliance with the particulate matter standards in § 60.732 as follows:

(1) Method 5 shall be used to determine the particulate matter concentration. The sampling time and volume for each test run shall be at least 2 hours and 1.70 dscm.

(2) Method 9 and the procedures in § 60.11 shall be used to determine opacity from stack emissions.

(c) During the initial performance test of a wet scrubber, the owner or operator shall use the monitoring devices of § 60.734(d) to determine the average change in pressure of the gas stream across the scrubber and the average flowrate of the scrubber liquid during each of the particulate matter runs. The arithmetic averages of the three runs shall be used as the baseline average values for the purposes of § 60.735(c).

**§ 60.737 Delegation of authority.**

(a) In delegating implementation and enforcement authority to a State under section 111(c) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) Authorities which will not be delegated to States: No restrictions.

# Indiana Department of Environmental Management
# Office of Air Quality

## Technical Support Document (TSD) for a Part 70 Significant Source and Significant Permit Modification

### Source Description and Location

| | |
|---|---|
| Source Name: | Ford Meter Box Company, Inc. |
| Source Location: | 775 Manchester Drive, Wabash, Indiana 46992 |
| County: | Wabash County |
| SIC Code: | 3366 (Copper Foundries), 3362 (Brass, Bronze, Copper, Copper Base Alloy Foundries (Castings)) |
| Operation Permit No.: | T 169-25077-00003 |
| Operation Permit Issuance Date: | December 8, 2009 |
| Significant Source Modification No.: | 169-34171-00003 |
| Significant Permit Modification No.: | 169-34315-00003 |
| Permit Reviewer: | Curtis Taylor |

### Existing Approvals

The source was issued Part 70 Operating Permit No. T169-25077-00003 on December 8, 2009. The source has since received the following approvals:

(a) First Administrative Amendment No. 169-31626-00003, issued on April 5, 2012;

(b) First Significant Source Modification No. 169-32985-00003, issued on July 30, 2013; and

(c) Second Significant Permit Modification No. 169-33227-00003, August 22, 2013.

### County Attainment Status

The source is located in Wabash 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. Wabash 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) $PM_{2.5}$
Wabash 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 $PM_{2.5}$, $SO_2$, and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(c) Other Criteria Pollutants
Wabash County has been classified as attainment or unclassifiable in Indiana for all other criteria regulated pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

## Fugitive Emissions

Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2, 326 IAC 2-3, or 326 IAC 2-7, and there is no applicable New Source Performance Standard that was in effect on August 7, 1980, fugitive emissions are not counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

## Source Status

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

| **Pollutant** | **Emissions** (ton/yr) |
|---|---|
| PM | 212.02 |
| $PM_{10}$ | 196.36 |
| $PM_{2.5}$ | 19.36 |
| $SO_2$ | 2.02 |
| VOC | 98.16 |
| CO | 230.1 |
| $NO_X$ | 43.67 |
| GHGs as $CO_2e$ | 19,614 |
| **HAPs** | |
| Lead | 8.63 |
| Other Minor | 15.88 |
| **Total** | **24.51** |

(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 $CO_2$ equivalent emissions ($CO_2e$) per year, and it is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(ff)(1).

(b) This existing source is not a major source of HAPs, as defined in 40 CFR 63.2, because HAPs emissions are less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA).

## Description of Proposed Modification

The Office of Air Quality (OAQ) has reviewed a modification application, submitted by Ford Meter Box Company, Inc. on February 10, 2013, relating to the proposed construction of multiple

emission units and the inclusion of existing insignificant activities and unpermitted equipment into the permit.

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

**Proposed Emission Units and Pollution Control Devices:**

(a) One (1) sand dryer and screener, identified as SD-01, approved in 2014 for construction, with a maximum heat input capacity of 2.00 MMBtu/hr and a maximum throughput of 4.00 tons of sand per hour, using Baghouse "SD" for particulate emissions control, exhausting to stack "SD".

Under 40 CFR 60, Subpart UUU, sand dryer (SD-01) is considered an affected facility.

(b) One (1) cut-off saw, identified as SCF-07, approved in 2014 for construction, with a maximum capacity of 2.00 tons of metal per hour, using Baghouse "U2" as control for particulate emissions, and exhausting to stack "U2".

(c) One (1) LPG fuel-fired water tester pump engine, identified as WTP-01, approved in 2014 for construction, with a maximum power output rate of 18 HP, exhausting inside the building.

Under 40 CFR 60, Subpart JJJJ, WTP-01 is considered an affected facility.

Under 40 CFR 63, Subpart ZZZZ, WTP-01 is considered an affected facility.

(d) Various Machining and grinding operations, identified as machining "819", approved in 2014 for construction, with a combined maximum throughput of 0.125 tons per hour of metal, using baghouse "819" as control, exhausting to stack "819".

(e) One (1) sand pit, identified as SP-01, approved in 2014 for construction, with a maximum storage capacity of 22 tons and a maximum throughput of 4.00 tons per hour, exhausting uncontrolled to atmosphere.

(f) Five (5) sand storage silos, identified as NST-03, NST-04, NST-05, NST-06, and NST-07, approved in 2014 for construction, with a maximum storage capacity of 70 tons, each, and a maximum throughput of 0.205 tons per hours, each, using Bin Vent BV-03, BV-04, BV-05, BV-06, and BV-07, exhausting to Stack BV-03, Stack BV-04, Stack BV-05, Stack BV-06, and Stack BV-07, respectively.

**Unpermitted Emission Units:**

(a) One (1) cut-off saw, identified as SCF-06, constructed in 2013, with a maximum capacity of 2.00 tons of metal per hour, using Baghouse "V" as control for particulate emissions, and exhausting to stack "V".

**Existing Insignificant Activities:**

(a) Furnace ancillary equipment, installed in 2012, including one (1) furnace burner and three (3) ladle heaters, each with a maximum heat input capacity of 4.50 MMBtu/hr, exhausting uncontrolled to atmosphere.

(b) Direct-fired make-up air units, exhausting uncontrolled to atmosphere, including, but not limited to:

(1) One (1) make-up air unit, installed prior to 1990, identified as AMM-04, with a maximum heat input capacity of 5.00 MMBtu/hr.

(2) One (1) make-up air unit, installed in 1991, identified as AMF-05, with a maximum heat input capacity of 3.00 MMBtu/hr.

(3) One (1) make-up air unit, installed in 1996, identified as AMM-03, with a maximum heat input capacity of 2.00 MMBtu/hr.

(c) Direct-fired infrared heaters, exhausting uncontrolled to atmosphere, including, but not limited to:

(1) Twenty (20) heaters, constructed between 1990 and 2014, each with a maximum heat input capacity of 0.0715 MMBtu/hr.

(d) One (1) plastic pipe saw, identified as SPP-01, constructed in 1985, using Baghouse BH-01 as control, exhausting inside the building.

(e) One (1) tool room machining center, identified as MC-03, constructed in 2008, using Demister FMM-01 for particulate control, exhausting inside the building.

(f) One (1) pattern shop machining center, identified as MCF-01A, constructed in 1988, using Demister FMF-01 for particulate control, exhausting inside the building.

(g) One (1) pattern shop machining center, identified as MCF-02, constructed in 2004, using Demister FMF-03 for particulate control, exhausting inside the building.

(h) One (1) pattern shop machining center, identified as MCF-03, constructed in 2008, using Demister FMF-04 for particulate control, exhausting inside the building.

(i) One (1) chip wringer, identified as CW-01, constructed in 2010, with a maximum capacity of 3,000 pounds per hour, using Demister FMM-10 for particulate control, exhausting inside the building.

(j) One (1) magnetic separator, identified as MS-03, constructed in 2010, with a maximum capacity of 1,000 pounds per hour, using Baghouse BH-06 as control, exhausting inside the building.

(k) One (1) furnace liner rebuild, identified as Inductor Rebuild Area, constructed in 1970, with a maximum capacity of 3 liners per year, using Baghouse BH-04 as control, exhausting inside the building.

(l) One (1) portable vacuum system, identified as SW-03, constructed in 1990, using fabric filters as control, exhausting inside the building.

(m) One (1) central vacuum system, identified as SW-02, constructed in 1990, using fabric filters as control, exhausting inside the building.

(n) One (1) central vacuum system, identified as SW-06, constructed in 2000, using fabric filters as control, exhausting inside the building.

Ford Meter Box Company, Inc. also applied to revise the emission factors used to estimate emissions from Unit #17 and Unit #19.

**Proposed Emission Factor Revisions:**

(a) The Warm Box Sand (Unit #19) had emission factors for PM and $PM_{10}$ from the U.S. EPA's WebFIRE for SCC # 3-04-003-19. The source has proposed to use the emission factors for SCC# 3-05-020-06. The source proposed this revision because the emission factors were based on tons of metal produced, where this process is solely used for the production of cores, primarily made of sand. The SCC# 3-05-020-06 emission factors are based on tons of material throughput (sand).

(b) The Warm Box Sand (Unit #19) had emission factors for $SO_2$ and NOx from the U.S. EPA's WebFIRE for SCC #3-04-003-51. The source has proposed to use the emission

factors for SCC #3-04-003-70. The source proposed this revision because the emission factors were based on core ovens, where this source does not have core ovens. SCC #3-04-003-70 is for shell core machine and more closely matches the emission unit operations.

(c) The Machining, Grinding, and Polishing (Unit #17) had emission factors for PM, $PM_{10}$ and $PM_{2.5}$ from the U.S. EPA's WebFIRE for SCC # 3-04-003-40 for Grinding/Cleaning at Grey Iron Foundries in units of pounds per ton of metal charged. The source proposed a conservative emission factor that was derived from back calculating emissions collected from Unit #17's control device (Baghouse X) and using the tons of machined castings for the grinding, machining, and finishing of brass parts:

For the week of August 5-9, 2013 (120 hours), the units venting to Baghouse X processed 38.289 tons of machined castings with an assumed capture and control of 98% of PM. 44 pounds of material was collected by the baghouse. Of the 44 pounds of material collected by the baghouse, approximately 98% of the material has an aerodynamic diameter larger than 100 microns as viewed under a microscope. Particulate matter is defined under 326 IAC 1-2-52 as any airborne finely divided solid or liquid material, excluding uncombined water, with an aerodynamic diameter small than on hundred (100) micrometers. Therefore, approximately 98% of the material collected does not meet the definition of particulate matter (PM). For permitting purposes the source has proposed to conservatively assume only 90% of the material collected has an aerodynamic diameter larger than 100 micrometers. The source has also proposed using an additional 25% safety factor. Therefore, the revised emission factor equates as follows:

(((44 lb / (98%)) * (1 – 90%)) / 38.289 tons) = 0.117 lb/ton * 1.25 = <u>0.147 lb/ton</u>

## Enforcement Issues

IDEM is aware that equipment has been constructed and operated prior to receipt of the proper permit. IDEM is reviewing this matter and will take the appropriate action. This proposed approval is intended to satisfy the requirements of the construction permit rules.

## Stack Summary

| Stack ID | Operation | Height (ft) | Diameter (ft) | Flow Rate (acfm) | Temperature ($^0$F) |
|---|---|---|---|---|---|
| stack "U2" | cut-off saw (SCF-06) | 38 | 1.33 | 3,500 | 70 |
| stack "V" | cut-off saw (SCF-07) | 37 | 2.83 | 17,000 | 70 |
| stack "819" | machining "819" | 21 | 1.95 | 6,500 | 70 |
| stack "SD" | sand dryer (SD-01) | 30 | 1.67 | 3,500 | 150 |

## Emission Calculations

See Appendix A of this Technical Support Document for detailed emission calculations.

## Permit Level Determination – Part 70

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emission unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant,

including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, IDEM, or the appropriate local air pollution control agency."

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

| **Increase in PTE Before Controls of the Modification** | |
|---|---|
| **Pollutant** | **Potential To Emit** (ton/yr) |
| PM | 81.29 |
| $PM_{10}$ | 80.88 |
| $PM_{2.5}$ | 80.86 |
| $SO_2$ | 0.08 |
| $NO_X$ | 13.75 |
| VOC | 0.76 |
| CO | 11.55 |
| $CO_2e$ | 16,585 |
| Single HAPs | 0.34 |
| Total HAPs | 0.60 |

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

This source modification is subject to 326 IAC 2-7-10.5(g)(4)(A) because the potential to emit PM, PM10, and PM2.5 is greater than twenty-five (25) tons per year before control. Additionally, the modification will be incorporated into the Part 70 Operating Permit through a significant permit modification issued pursuant to 326 IAC 2-7-12(d)(1), because the modification requires minor changes in existing monitoring Part 70 permit terms and conditions.

**Permit Level Determination – PSD**

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

| | **Potential to Emit** (ton/yr) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Proposed Emission Unit** | **PM** | **$PM_{10}$** | **$PM_{2.5}$*** | **$SO_2$** | **$NO_X$** | **VOC** | **CO** | **GHGs** | **Lead** |
| Cut-Off Saw (SCF-07) | 11.42 | 11.42 | 11.42 | - | - | - | - | - | 0.16 |
| Sand Dryer and Screener (SD-01) | 37.99 | 38.02 | 38.02 | 0.01 | 0.86 | 0.5 | 0.72 | 1025 | 0.00 |
| **Proposed Insignificant Activities** | | | | | | | | | |
| Machining & Grinding (Machining "819") | 0.08 | 0.08 | 0.08 | - | - | - | - | - | 0.00 |
| Sand Pit (SP-01) | 0.02 | 0.01 | 0.00 | - | - | - | - | - | - |
| Five (5) Sand Storage Silos (NST-03 through -07) | 3.28 | 2.11 | 2.11 | - | - | - | - | - | - |
| **Unpermitted Emission Units** | | | | | | | | | |
| Cut-Off Saw (SCF-06) | 11.42 | 11.42 | 11.42 | - | - | - | - | - | 0.16 |
| **Existing Insignificant Activities** | | | | | | | | | |
| Twenty (20) Natural Gas Heaters | 0.01 | 0.05 | 0.05 | 0.00 | 0.63 | 0.03 | 0.53 | 756 | 0.00 |
| Furnace Ancillary Equipment - Natural Gas | 0.15 | 0.60 | 0.60 | 0.05 | 7.88 | 0.43 | 6.62 | 9,517 | 0.00 |
| Natural Gas Make-Up Air Unit (AMM-04) | 0.04 | 0.17 | 0.17 | 0.01 | 2.19 | 0.12 | 1.84 | 2,644 | 0.00 |
| Natural Gas Make-Up Air Unit (AMF-05) | 0.02 | 0.10 | 0.10 | 0.01 | 1.31 | 0.07 | 1.10 | 1,586 | 0.00 |
| Natural Gas Make-Up Air Unit (AMM-03) | 0.02 | 0.07 | 0.07 | 0.01 | 0.88 | 0.05 | 0.74 | 1,057 | 0.00 |
| Plastic Pipe Saw (SPP-01) | 1.98 | 1.98 | 1.98 | - | - | - | - | - | - |
| Tool Room Machining Center (MC-03) | 0.71 | 0.71 | 0.71 | - | - | - | - | - | 0.00 |
| Pattern Shop Machining Center (MCF-01A) | 0.71 | 0.71 | 0.71 | - | - | - | - | - | 0.00 |
| Pattern Shop Machining Center (MCF-02) | 0.71 | 0.71 | 0.71 | - | - | - | - | - | 0.00 |
| Pattern Shop Machining Center (MCF-03) | 0.71 | 0.71 | 0.71 | - | - | - | - | - | 0.00 |
| Chip Wringer (CW-01) | 0.71 | 0.71 | 0.71 | - | - | - | - | - | 0.00 |
| Magnetic Separator (MS-03) | 0.47 | 0.47 | 0.47 | - | - | - | - | - | 0.00 |
| Inductor Rebuild Area | 0.24 | 0.24 | 0.24 | - | - | - | - | - | 0.00 |
| Portable Vacuum System (SW-03) | 0.90 | 0.90 | 0.90 | - | - | - | - | - | 0.00 |
| Central Vacuum System (SW-02) | 4.85 | 4.85 | 4.85 | - | - | - | - | - | 0.01 |
| Central Vacuum System (SW-06) | 4.85 | 4.85 | 4.85 | - | - | - | - | - | 0.01 |
| **Total for Modification** | **81.29** | **80.88** | **80.86** | **0.08** | **13.75** | **0.76** | **11.55** | **16,585** | **0.34** |
| Total for Source Before Modification | 214.47 | 196.40 | 196.40 | 1.67 | 98.72 | 231.62 | 44.04 | 20,170 | 8.64 |
| Total for Source After Modification | 245.76 | 236.54 | 236.53 | 4.62 | 38.42 | 98.61 | 236.92 | 29,459 | 7.70 |
| PSD Major Source Thresholds | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 100,000 $CO_2e$ | NA |

*$PM_{2.5}$ listed is direct $PM_{2.5}$.

This modification to an existing minor stationary source is not major because the emissions increase is less than the PSD major source thresholds. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

**Federal Rule Applicability Determination**

The following federal rules are applicable to the source due to this modification:

**NSPS:**

(a) The requirements of Nonmetallic Mineral Processing Plants (40 CFR 60, Subpart OOO) are not included in this permit because the source is a fixed plant with a capacity of less than 23 megagrams (25 tons) per hour, when processing sand. The sand screening operation has a capacity of 4.0 tons per hour.

(b) The requirements of Stationary Compression Ignition Internal Combustion Engine (40 CFR 60, Subpart IIII) are not included in this permit because the 18 HP LPG fuel-fired water tester pump engine is not a compression ignition engine.

(c) The 18HP LPG fuel-fired water tester pump engine is subject to the New Source Performance Standards for Stationary Spark Ignition Internal Combustion Engines, 40 CFR 60, Subpart JJJJ (326 IAC 12), because the stationary water tester pump is a spark ignigtion internal combustion engine for which construction shall commence after June 12, 2006 and the unit shall be manufactured after July 1, 2008, with a maximum engine power less than 500 HP.

Nonapplicable portions of the NSPS will not be included in the permit. The LPG fuel-fired water tester pump engine is subject to the following portions of Subpart JJJJ.

(1) 40 CFR 60.4230(a)(4)(iii) and (a)(6)
(2) 40 CFR 60.4233(a)
(3) 40 CFR 60.4234
(4) 40 CFR 60.4236
(5) 40 CFR 60.4245(a)
(6) 40 CFR 60.4246
(7) 40 CFR 60.4248

The requirements of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated as 326 IAC 12-1, apply to the LPG fuel-fired water tester pump engine except as otherwise specified in 40 CFR 60, Subpart JJJJ.

(d) The Sand Dryer (SD-01), is subject to the requirements of Calciners and Dryers in Mineral Industries (40 CFR 60, Subpart UUU) because the dryer is located at a mineral processing plant, which processes industrial sand, and commenced construction, modification, or reconstruction after April 23, 1986.

The sand dryer (SD-01) is subject to the following portions of Subpart UUU:

(1) 40 CFR 60.730(a) and (c)
(2) 40 CFR 60.731
(3) 40 CFR 60.732
(4) 40 CFR 60.733
(5) 40 CFR 60.736(a) and (b)
(6) 40 CFR 60.737

Note: The monitoring and corresponding recordkeeping requirements of 40 CFR 60.734 and 60.735 are not applicable to this unit. Pursuant to EPA's Applicability Determination Index (ADI) database (Control Number: 9700071), units with after-control emissions less than 11 tons per year are exempt from any opacity monitoring requirements.

The requirements of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated as 326 IAC 12-1, apply to the sand dryer (SD-01) except as otherwise specified in 40 CFR 60, Subpart UUUU.

**NESHAP:**

(e) The 18HP LPG fuel-fired water tester pump engine is subject to the National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion

Engines, 40 CFR 63, Subpart ZZZZ (326 IAC 20-82), because the stationary water tester pump is a reciprocating internal combustion engine, at a major source of HAP.

Nonapplicable portions of the NESHAP will not be included in the permit. The 18HP LPG fuel-fired water tester pump engine is subject to the following portions of Subpart ZZZZ:

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

The provisions of 40 CFR 63 Subpart A – General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the 18HP LPG fuel-fired water tester pump engine described in this section except when otherwise specified in 40 CFR 63 Subpart ZZZZ.

(f) The requirements of Industrial, Commercial, and Institutional Boilers and Process Heater for Major Sources (40 CFR 63, Subpart DDDDD) are not included in this permit because the two (2) natural gas fired boilers (Units #1 and #2) are not located at, or are part of a major source of HAPs based on the limited PTE of the source.

(g) The requirements of Industrial, Commercial, and Institutional Boilers Area Sources (40 CFR 63, Subpart JJJJJJ) are not included in this permit because the two (2) boilers (Units #1 and #2) are defined as gas-fired boilers.

(h) The source remains subject to 40 CFR 63, Subpart ZZZZZZ, Area Source Standards for Aluminum, Copper, and Other Nonferrous Foundries. The units referenced for this modification are not affected facilities. The requirements are already incorporated into the permit.

**Compliance Assurance Monitoring (CAM):**

(i) 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) |
| Sand Storage Silos (NST-03 to -07) PM | Y | N | 3.28 | 0.16 | 100 | N | N |
| Sand Storage Silos (NST-03 to -07) PM10,PM2.5 | Y | N | 2.11 | 0.11 | 100 | N | N |
| Cut-Off Saw (SCF-06) PM, PM10, PM2.5 | Y | N | 11.42 | 0.91 | 100 | N | N |
| Cut-Off Saw (SCF-06) Lead | Y | N | 0.16 | 0.01 | 10 | N | N |
| Cut-Off Saw (SCF-07) PM, PM10, PM2.5 | Y | N | 11.42 | 0.91 | 100 | N | N |
| Cut-Off Saw (SCF-07) Lead | Y | N | 0.16 | 0.01 | 10 | N | N |
| Sand Dryer (SD-01) (drying/screening) PM, PM10, PM2.5 | Y | N | 37.99 | 0.36 | 100 | N | N |
| Unit #17 (Worst Case) PM, PM10, PM2.5 | Y | N | 2.03 | 0.02 | 100 | N | N |
| Unit #17 (Worst Case) Lead | Y | N | 0.07 | 0.00 | 10 | N | N |

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

## State Rule Applicability Determination

**326 IAC 2-2 (PSD)**
PSD applicability is discussed under the Permit Level Determination – PSD section.

**326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))**
The operation of each new emission unit will emit less than ten (10) tons per year for a single HAP and less than twenty-five (25) tons per year for a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

**326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating)**
The requirements of 326 IAC 6-2-4 are not included for the new natural gas-fired combustion units because they are not sources of indirect heating.

**326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)**
(1) Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the Sand Dryer and Screener (SD-01) (sand drying) shall not exceed 10.38 pounds per hour when operating at a process weight rate of 4.00 tons per hour.

(2) Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the Sand Dryer and Screener (SD-01) (screening) shall not exceed 10.38 pounds per hour when operating at a process weight rate of 4.00 tons per hour.

(3) Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the Cut-Off Saws (SCF-06 and SCF-07) shall not exceed 6.52 pounds per hour, each, when operating at a process weight rate of 2.00 tons per hour, each.

(4) Pursuant to 326 IAC 6-3-1(b)(14), the requirements of 326 IAC 6-3 are not applicable to the Machining & Grinding (Machining "819") because the particulate matter (PM) emissions are less than 0.551 pounds per hour.

(5) Pursuant to 326 IAC 6-3-1(b)(14), the requirements of 326 IAC 6-3 are not applicable to the Sand Pit (SP-01) because the particulate matter (PM) emissions are less than 0.551 pounds per hour.

(6) Pursuant to 326 IAC 6-3-1(b)(14), the requirements of 326 IAC 6-3 are not applicable to the five (5) Sand Storage Silos (NST-03, NST-04, NST-05, NST-06, NST-07) because each has particulate matter (PM) emissions of less than 0.551 pounds per hour.

(7) Pursuant to 326 IAC 6-3-1(b)(14), he requirements of 326 IAC 6-3 are not applicable to the Chip Wringer (CW-01) because the particulate matter (PM) emissions are less than 0.551 pounds per hour.

(8) Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the Central Vacuum Systems (SW-02 and SW-06) shall not exceed 21.67 pounds per hour, each, when operating at a process weight rate of 12.00 tons per hour, each.

(9) The emission factor for Machining, Grinding, and Polishing (Unit #17) has been revised in this modification. Pursuant to 326 IAC 6-3-1(b)(14), the requirements of 326 IAC 6-3 are not applicable to the Machining, Grinding, and Polishing (Unit #17) because the particulate matter (PM) emissions are now below 0.551 pounds per hour.

The above pound per hour limitations were calculated with the equation listed below:

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

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

| Summary of Process Weight Rate Limits | | |
|---|---|---|
| **Process / Emission Unit** | **P** (ton/hr) | **E** (lb/hr) |
| Sand Dryer (SD-01) (drying) | 4.00 | 10.38 |
| Sand Dryer (SD-01) (screening) | 4.00 | 10.38 |
| Cut-Off Saw (SCF-06) | 2.00 | 6.52 |
| Cut-Off Saw (SCF-07) | 2.00 | 6.52 |
| Central Vacuum System (SW-02) | 12.00 | 21.67 |
| Central Vacuum System (SW-06) | 12.00 | 21.67 |

**326 IAC 8-1-6 (General Reduction Requirements for New Facilities)**
The requirements of 326 IAC 8-1-6 are not included in this permit because the source does not have the VOC potential emissions of twenty-five (25) tons or more per year.

## Compliance Determination and Monitoring Requirements

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

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

There are no new Compliance Determination Requirements applicable to this modification. However, the stack testing requirement for baghouse X, controlling Unit 17, has been removed. The source submitted revised potential to emit calculations based on mass balance for Unit 17. Based on the revised potentials to emit from Unit 17, the emission limitations for Unit 17 have been removed. Therefore, the stack testing requirement to demonstrate compliance with the Unit 17 emission limitations is also being removed.

There are no new Compliance Monitoring Requirements applicable to this modification.

## Proposed Changes

The changes listed below have been made to Part 70 Operating Permit No T169-25077-00003. Deleted language appears as ~~strikethroughs~~ and new language appears in **bold**:

***

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(14)]

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

Shakeout, Sand Handling, Mold Making, and Core Making:
***

**(b1) One (1) sand dryer and screener, identified as SD-01, approved in 2014 for construction, with a maximum heat input capacity of 2.00 MMBtu/hr and a maximum throughput of 4.00 tons of sand per hour, using Baghouse "SD" for particulate emissions control, exhausting to stack "SD".**

**Under 40 CFR 60, Subpart UUU, sand dryer (SD-01) is considered an affected facility.**

***

Machining, Grinding, and Finishing:
***

**(o1) One (1) cut-off saw, identified as SCF-06, constructed in 2013, with a maximum throughput of 2.00 tons of metal per hour, using Baghouse "U2" for particulate emissions control, exhausting so Stack "U2"; and**

**(o2) One (1) cut-off saw, identified as SCF-07, approved in 2014 for construction, with a maximum throughput of 2.00 tons of metal per hour, using Baghouse "V" for particulate emissions control, exhausting to Stack "V".**

***

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

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

***

(d) Natural gas-fired combustion sources with heat input equal to or less than ten (10) million British Thermal Units per hour, including, but not limited to:

**(1)** Two (2) natural gas fired boilers for building heating, identified as Units #1 and #2, installed in 2009, each with a maximum heat input capacity of 7.325 MMBtu/hr, and exhausting to Stack "A"; [326 IAC 6-2-4]

**(2) Furnace ancillary equipment, installed in 2012, including one (1) furnace burner and three (3) ladle heaters, each with a maximum heat input capacity of 4.50 MMBtu/hr, exhausting uncontrolled to atmosphere.**

**(3) Direct-fired make-up air units, exhausting uncontrolled to atmosphere, including, but not limited to:**

**(i) One (1) make-up air unit, installed prior to 1990, identified as AMM-04, with a maximum heat input capacity of 5.00 MMBtu/hr.**

**(ii) One (1) make-up air unit, installed in 1991, identified as AMF-05, with a maximum heat input capacity of 3.00 MMBtu/hr.**

**(iii) One (1) make-up air unit, installed in 1996, identified as AMM-03, with a maximum heat input capacity of 2.00 MMBtu/hr.**

**(4) Direct-fired infrared heaters, exhausting uncontrolled to atmosphere, including, but not limited to:**

**(i) Twenty (20) heaters, constructed between 1990 and 2014, each with a maximum heat input capacity of 0.0715 MMBtu/hr.**

(e) Propane or liquefied petroleum gas, or butane-fired combustion sources with heat input equal to or less than six (6) million British Thermal Units per hour; **including, but not limited to:**

**(1) One (1) water tester pump engine, identified as WTP-01, approved in 2014 for construction, combusting only LPG fuel, with a maximum power output rate of 18 HP, exhausting inside the building.**

**Under 40 CFR 60, Subpart JJJJ, WTP-01 is considered an affected facility.**

**Under 40 CFR 63, Subpart ZZZZ, WTP-01 is considered an affected facility.**

***

(cc) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4,000 actual standard cubic feet per minute, including the following: deburring, buffing, polishing, abrasive blasting, pneumatic conveying, and woodworking operations**, including, but not limited to:**

**(1) One (1) plastic pipe saw, identified as SPP-01, constructed in 1985, using Baghouse BH-01 as control, exhausting inside the building.**

**(2) One (1) tool room machining center, identified as MC-03, constructed in 2008, using Demister FMM-01 for particulate control, exhausting inside the building.**

**(3) One (1) pattern shop machining center, identified as MCF-01A, constructed in 1988, using Demister FMF-01 for particulate control, exhausting inside the building.**

**(4) One (1) pattern shop machining center, identified as MCF-02, constructed in 2004, using Demister FMF-03 for particulate control, exhausting inside the building.**

**(5) One (1) pattern shop machining center, identified as MCF-03, constructed in 2008, using Demister FMF-04 for particulate control, exhausting inside the building.**

***

(ff) Other activities with volatile organic compound (VOC) emissions equal to or less than 15 pounds per day, and activities with particulate matter (PM) emissions equal to or less than 25 pounds per day**, including, but not limited to:**

**(1) Various machining and grinding operations, identified as machining "819", approved in 2014 for construction, with a combined maximum throughput of 0.125 tons per hour, using Baghouse "819" as control, exhausting to Stack "819".**

**(2) One (1) chip wringer, identified as CW-01, constructed in 2010, with a maximum capacity of 3,000 pounds per hour, using Demister FMM-10 for particulate control, exhausting inside the building.**

**(3) One (1) magnetic separator, identified as MS-03, constructed in 2010, with a maximum capacity of 1,000 pounds per hour, using Baghouse BH-06 as control, exhausting inside the building.**

**(4) One (1) portable vacuum system, identified as SW-03, constructed in 1990, using fabric filters as control, exhausting inside the building.**

**(5) One (1) central vacuum system, identified as SW-02, constructed in 1990, using fabric filters as control, exhausting inside the building.**

**(6) One (1) central vacuum system, identified as SW-06, constructed in 2000, using fabric filters as control, exhausting inside the building.**

**(7) One (1) sand pit, approved in 2014 for construction, identified as SP-01, with a maximum storage capacity of 22 tons and a maximum throughput of 4.00 tons per hour, exhausting uncontrolled to atmosphere.**

**(8) Five (5) sand storage silos, identified as NST-03, NST-04, NST-05, NST-06, and NST-07, approved in 2014 for construction, with a maximum storage capacity of 70 tons, each, and a maximum throughput of 0.205 tons per hours, each, using Bin Vent BV-03, BV-04, BV-05, BV-06, and BV-07, exhausting to Stack BV-03, Stack BV-04, Stack BV-05, Stack BV-06, and Stack BV-07, respectively.**

***

**(ii) One (1) furnace liner rebuild, identified as Inductor Rebuild Area, constructed in 1970, with a maximum capacity of 3 liners per year, using Baghouse BH-04 as control, exhausting inside the building.**

**(jj) Asbestos abatement projects regulated by 326 IAC 14-10.**

**(kk) On-site fire training approved by the IDEM.**

***

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

Shakeout, Sand Handling, Mold Making, and Core Making:
***

**(b1) One (1) sand dryer and screener, identified as SD-01, approved in 2014 for construction, with a maximum heat input capacity of 2.00 MMBtu/hr and a maximum throughput of 4.00 tons of sand per hour, using Baghouse "SD" for particulate emissions control, exhausting to stack "SD".**

**Under 40 CFR 60, Subpart UUU, sand dryer (SD-01) is considered an affected facility.**

***

Machining, Grinding, and Finishing:
***

**(o1) One (1) cut-off saw, identified as SCF-06, constructed in 2013, with a maximum throughput of 2.00 tons of metal per hour, using Baghouse "U2" for particulate emissions control, exhausting so Stack "U2"; and**

**(o2) One (1) cut-off saw, identified as SCF-07, approved in 2014 for construction, with a maximum throughput of 2.00 tons of metal per hour, using Baghouse "V" for particulate emissions control, exhausting to Stack "V".**

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

***

D.1.2 PSD Minor Limit [326 IAC 2-2]

In order to make the requirements of 326 IAC 2-2 (PSD) not applicable, the PM, $PM_{10}$ and $PM_{2.5}$ emissions from the Didion Rotary Metal Reclaimer, Units #6, #11 through **#16,** #18, #20, #23, #26, #29, and #30 shall not exceed the emissions limits listed in the table below:

| Emission Unit | PM Emission Limit (lb/hr) | $PM_{10}$ Emission Limit (lb/hr) | $PM_{2.5}$ Emission Limit (lb/hr) |
|---|---|---|---|
| *** | | | |
| ~~Unit #17: Machining, Grinding, and Polishing~~ | ~~2.28~~ | ~~2.28~~ | ~~2.28~~ |
| *** | | | |

D.1.3 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 the Didion Rotary Metal Reclaimer, Units #5, #6, #11 through **#16, #18, #19,** #20, #23, #26, #29, ~~and~~ #30**, SD-01, SCF-06, SCF-07, SW-02, and SW-06** shall not exceed the pounds per hour emission limitations when operating at maximum process weight rates as specified in the table below:

| Emission Unit | Process Weight Rate (ton/hr) | 326 IAC 6-3-2 Allowable Particulate Emission Limit (lb/hr) |
|---|---|---|

| Emission Unit | Process Weight Rate (ton/hr) | 326 IAC 6-3-2 Allowable Particulate Emission Limit (lb/hr) |
|---|---|---|
| *** | | |
| ~~Unit #17: Machining, Grinding, and Polishing~~ | ~~2.13~~ | ~~6.80~~ |
| *** | | |
| **Sand Dryer (SD-01)** | **4.00** | **10.38** |
| **Cut-Off Saw (SCF-06)** | **2.00** | **6.52** |
| **Cut-Off Saw (SCF-07)** | **2.00** | **6.52** |
| **Central Vacuum System (SW-02)** | **12.00** | **21.67** |
| **Central Vacuum System (SW-06)** | **12.00** | **21.67** |

***

D.1.4 Hazardous Air Pollutants (Lead) [326 IAC 2-4.1][326 IAC 2-2]

In order to render the requirements of 326 IAC 2-4.1 and 326 IAC 2-2 not applicable, the lead emissions from the Didion Rotary Metal Reclaimer, Units #6, #11 through **#16,** #18, #20, #23, #26, #29, and #30 shall not exceed the emissions limits listed in the table below:

| Emission Unit | Lead Emission Limit (lb/hr) |
|---|---|
| *** | |
| ~~Unit #17: Machining, Grinding, and Polishing~~ | ~~0.306~~ |

***

D.1.7 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

In order to demonstrate the compliance status with Conditions D.1.2, D.1.3, and D.1.4, the Permittee shall:

***

(c) perform PM, $PM_{10}$, $PM_{2.5}$ and lead testing on the stack of Baghouse G controlling emissions from Didion Rotary Metal Reclaimer, within sixty (60) days of reaching maximum capacity but no later than one hundred and eighty (180) days after initial startup, utilizing methods approved by the Commissioner. These tests shall be repeated at least once every five years from the date of the most recent valid compliance demonstration on one (1) emission unit from Group B, as specified in the table below. Testing on any individual emission unit shall not be repeated until each emission unit in Group B has been tested. $PM_{10}$ and $PM_{2.5}$ contain filterable and condensable PM.

| Group B Emission Units | |
|---|---|
| Emission Unit | Baghouse |
| *** | |
| ~~Unit #17: Machining, Grinding, and Polishing~~ | ~~X~~ |

***

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

Insignificant Activities:

(d) Natural gas-fired combustion sources with heat input equal to or less than ten (10) million British Thermal Units per hour, including, but not limited to:

**(1)** Two (2) natural gas fired boilers for building heating, identified as Units #1 and #2, installed in 2009, each with a maximum heat input capacity of 7.325 MMBtu/hr, and exhausting to Stack "A"; [326 IAC 6-2-4]

**(2) Furnace ancillary equipment, installed in 2012, including one (1) furnace burner and three (3) ladle heaters, each with a maximum heat input capacity of 4.50 MMBtu/hr, exhausting uncontrolled to atmosphere.**

**(3) Direct-fired make-up air units, exhausting uncontrolled to atmosphere, including, but not limited to:**

**(i) One (1) make-up air unit, installed prior to 1990, identified as AMM-04, with a maximum heat input capacity of 5.00 MMBtu/hr.**

**(ii) One (1) make-up air unit, installed in 1991, identified as AMF-05, with a maximum heat input capacity of 3.00 MMBtu/hr.**

**(iii) One (1) make-up air unit, installed in 1996, identified as AMM-03, with a maximum heat input capacity of 2.00 MMBtu/hr.**

**(4) Direct-fired infrared heaters, exhausting uncontrolled to atmosphere, including, but not limited to:**

**(i) Twenty (20) heaters, constructed between 1990 and 2014, each with a maximum heat input capacity of 0.0715 MMBtu/hr.**

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

***

SECTION E.2 FACILITY OPERATI~~NG~~**ON** CONDITIONS

Emissions Unit Description:

(p) One (1) 100 KW spark ignition internal combustion natural gas-fired emergency generator, constructed in 2007, used to generate electric power, with a maximum power output rate of 134.1 horsepower, firing natural gas only, using no control and exhausting to the atmosphere. [40 CFR 63, Subpart ZZZZ]

(q) Two (2) diesel fuel-fired 423 maximum horsepower (2.9 million British thermal Units per hour) emergency generators, installed in 1992. [40 CFR 63, Subpart ZZZZ]

Insignificant Activity

(e) Propane or liquefied petroleum gas, or butane-fired combustion sources with heat input equal to or less than six (6) million British Thermal Units per hour; including, but not limited to:

(1) One (1) water tester pump engine, identified as WTP-01, approved in 2014 for construction, combusting only LPG fuel, with a maximum power output rate of 18 HP,

exhausting inside the building.

Under 40 CFR 60, Subpart JJJJ, WTP-01 is considered an affected facility.

Under 40 CFR 63, Subpart ZZZZ, WTP-01 is considered an affected facility.

(bb) One (1) 100 HP four-stroke rich burn diesel-fired emergency fire pump, installed in January of 1980, using no control and exhausting to the atmosphere. [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.)

***

E.2.2 National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines [40 CFR 63, Subpart ZZZZ][326 IAC 20-82]

The Permittee shall comply with the following provisions of 40 CFR 63, Subpart ZZZZ, which are incorporated by reference as 326 IAC 20-82 (included as Attachment B of this permit) as specified below:

**(a) For the 18 HP LPG fired water tester pump engine, the Permittee shall comply with the following:**

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

(~~a~~**b**) For the 100 HP diesel-fired emergency fire pump and both 423 HP diesel-fired emergency generators, the Permittee shall comply with the following:

(1) 40 CFR 63.6580;
(2) 40 CFR 63.6585
(3) 40 CFR 63.6590(a)(1)(iii);
(4) 40 CFR 63.6595(a)(1) (b), (c);
(5) 40 CFR 63.6603(a);
(6) 40 CFR 63.6605;
(7) 40 CFR 63.6625(e)(3), (f), (h), (i), (j);
(8) 40 CFR 63.6635;
(9) 40 CFR 63.6640(a), (b), (e), (f)(1), (f)(2), (f)(4);
(10) 40 CFR 63.6655(d), (e)(2), (e)(3);
(11) 40 CFR 63.6650;
(12) 40 CFR 63.6655;
(13) 40 CFR 63.6660;
(14) 40 CFR 63.6665;
(15) 40 CFR 63.6670;
(16) 40 CFR 63.6675;
(17) Table 2d (items 4); and
(18) Table 6 (item 9)
(19) Table 8

(~~c~~**b**) For the 100 KW natural gas-fired emergency generator, the Permittee shall comply with the following:

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

(4) 40 CFR 63.6665
(5) 40 CFR 63.6670
(6) 40 CFR 63.6675

***

**SECTION E.3 FACILITY OPERATION CONDITIONS**

**Emissions Unit Description:**

**Insignificant Activity**

**(e) Propane or liquefied petroleum gas, or butane-fired combustion sources with heat input equal to or less than six (6) million British Thermal Units per hour; including, but not limited to:**

**(1) One (1) water tester pump engine, identified as WTP-01, approved in 2014 for construction, combusting only LPG fuel, with a maximum power output rate of 18 HP, exhausting inside the building.**

**Under 40 CFR 60, Subpart JJJJ, WTP-01 is considered an affected facility.**

**Under 40 CFR 63, Subpart ZZZZ, WTP-01 is considered an affected facility.**

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

**New Source Performance Standards (NSPS) Requirements**

**E.3.1 General Provisions Relating to NSPS JJJJ [326 IAC 12-1][40 CFR 60, Subpart A]**

**Pursuant to 40 CFR 60.4248, the Permittee shall comply with the provision of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 12-1, as specified in Table 3 of 40 CFR Part 60, Subpart JJJJ in accordance with schedule in 40 CFR 60 Subpart JJJJ.**

**E.3.2 New Source Performance Standards (NSPS) for Stationary Spark Ignition Internal Combustion Engines [40 CFR 60, Subpart JJJJJ][326 IAC 12-1]**

**The Permittee shall comply with the following provisions of 40 CFR 60, Subpart JJJJ, (included as Attachment C of this permit) as specified below:**

**(1) 40 CFR 60.4230(a)(4)(iii) and (a)(6)**
**(2) 40 CFR 60.4233(a)**
**(3) 40 CFR 60.4234**
**(4) 40 CFR 60.4236**
**(5) 40 CFR 60.4245(a)**
**(6) 40 CFR 60.4246**
**(7) 40 CFR 60.4248**

***

**SECTION E.4 FACILITY OPERATION CONDITIONS**

**Emissions Unit Description:**

**(b1) One (1) sand dryer and screener, identified as SD-01, approved in 2014 for construction, with a maximum heat input capacity of 2.00 MMBtu/hr and a maximum throughput of 4.00 tons of sand per hour, using Baghouse "SD" for particulate emissions control, exhausting to stack "SD".**

**Under 40 CFR 60, Subpart UUU, sand dryer (SD-01) is considered an affected facility.**

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

**New Source Performance Standards (NSPS) Requirements**

**E.4.1 General Provisions Relating to NSPS UUU [326 IAC 12-1][40 CFR 60, Subpart A]**

**The provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 12-1-1, apply to the sand dryer and screener (SD-01), except when otherwise specified in 40 CFR Part 60, Subpart UUU.**

**E.4.2 New Source Performance Standards (NSPS) for Stationary Spark Ignition Internal Combustion Engines [40 CFR 60, Subpart JJJJJ][326 IAC 12-1]**

**The Permittee, shall comply with the following provisions of 40 CFR 60, Subpart JJJJ, (included as Attachment D of this permit) as specified below:**

**(1) 40 CFR 60.730(a) and (c)**
**(2) 40 CFR 60.731**
**(3) 40 CFR 60.732**
**(4) 40 CFR 60.733**
**(5) 40 CFR 60.736(a) and (b)**
**(6) 40 CFR 60.737**

***

## Conclusion and Recommendation

The construction of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Source Modification No.169-34171-00003 and Significant Permit Modification No. 169-34315-00003. The staff recommends to the Commissioner that this Part 70 Significant Source and Significant Permit Modification be approved.

## IDEM Contact

(a) Questions regarding this proposed permit can be directed to Curtis Taylor 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) 234-5176 or toll free at 1-800-451-6027 extension 4-5176.

(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**
**Emission Summary**

**Company Name:** The Ford Meter Box Company, Inc.
**Address City IN Zip:** 775 Manchester Avenue, Wabash, Indiana 46992
**Significant Source Modification No.:** 169-34171-00003
**Significant Permit Modification No.:** 169-34315-00003
**Reviewer:** Curtis Taylor

| Process/Facility | Potential to Emit (tons/year) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | PM | $PM_{10}$ | Direct PM2.5 | $SO_2$ | $NO_x$ | VOC | CO | GHGs ($CO_2e$) | Total HAP | Lead |
| Furnace Charge/Melt/Pour (Unit #23) | 204.61 | 117.73 | 117.73 | 0.72 | 0.36 | 5.02 | 215.36 | 0 | 16.09 | 13.09 |
| Shakeout & Sand Handling (Unit #6) | 1050.81 | 189.21 | 189.21 | 0.00 | 0.00 | 21.54 | 0.00 | 0 | 3.27 | 3.27 |
| Shakeout & Sand Handling for #1, #2, #3 Sintos (Unit #20) | 766.99 | 146.63 | 146.63 | 0.00 | 0.00 | 21.54 | 0.00 | 0 | 2.39 | 2.39 |
| Sand Treatment & Brass Reclaim Operations (Unit #13) | 236.52 | 35.48 | 35.48 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.47 | 0.47 |
| Didion Metal Reclaimer | 28.03 | 19.62 | 19.62 | 0.00 | 0.00 | 10.51 | 0.00 | 0 | 0.06 | 0.06 |
| Sand Handling & Drying Operation (Drying) | 37.99 | 38.02 | 38.02 | 0.01 | 0.86 | 0.05 | 0.72 | 1025 | 0.02 | 0.00 |
| Sand Handling & Drying Operation (Storage) | 3.28 | 2.11 | 2.11 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.00 | 0.00 |
| Coreroom Ventilation (Unit #19) | 0.05 | 0.09 | 0.09 | 2.91 | 5.59 | 3.17 | 0.89 | 1262 | 4.01 | 0.00 |
| Iron Room (Unit #5) | 17.63 | 5.81 | 5.81 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.07 | 0.07 |
| Shotblasting (Unit #11) | 203.28 | 20.33 | 20.33 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 6.10 | 6.10 |
| Shotblasting (Unit #12) | 102.01 | 10.20 | 10.20 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 3.06 | 3.06 |
| Shotblasting (Unit #14) | 610.20 | 61.02 | 61.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 1.08 | 1.08 |
| Shot Blast Unit (2009) (Unit #29) | 148.92 | 14.89 | 14.89 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.35 | 0.35 |
| Grinding & Cut-Off (Unit #15) | 185.21 | 61.02 | 61.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 8.97 | 8.97 |
| Cut-Off Saw (2009) (Unit #30) | 148.92 | 14.89 | 14.89 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.35 | 0.35 |
| Cut-Off Saw (SCF-06) | 11.42 | 11.42 | 11.42 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.16 | 0.16 |
| Cut-Off Saw (SCF-07) | 11.42 | 11.42 | 11.42 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.16 | 0.16 |
| Mach., Grind., & Polish (Unit #16) | 58.08 | 5.81 | 5.81 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 2.87 | 2.87 |
| Mach., Grind., & Polish (Unit #17) | 2.03 | 2.03 | 2.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.07 | 0.07 |
| Mach., Grind., & Polish (Unit #18) | 67.01 | 6.70 | 6.70 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 3.31 | 3.31 |
| Mach., Grind., & Polish (Unit #26) | 166.64 | 16.67 | 16.67 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 8.23 | 8.23 |
| 100 KW Generator | 0.00 | 0.00 | 0.00 | 0.00 | 1.17 | 0.03 | 0.09 | 34 | 0.02 | 0.00 |
| Two 423 HP Generators | 0.47 | 0.47 | 0.47 | 0.43 | 6.56 | 0.53 | 1.41 | 241 | 0.01 | 0.00 |
| 100 HP Fire Pump | 0.06 | 0.06 | 0.06 | 0.05 | 0.78 | 0.06 | 0.17 | 29 | 0.00 | 0.00 |
| Binks Spray Booth (Unit #21) | 4.00 | 4.00 | 4.00 | 0.00 | 0.00 | 11.96 | 0.00 | 0 | 6.22 | 0.00 |
| Nut Coat Ops (Unit #27) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.55 | 0.00 | 0 | 0.00 | 0.00 |
| Misc. Painting and Gluing Activities | 2.64 | 2.64 | 2.64 | 0.00 | 0.00 | 10.30 | 0.00 | 0 | 2.40 | 0.00 |
| Chip Dryers | 0.60 | 0.60 | 0.60 | 0.25 | 0.06 | 0.00 | 0.01 | 23 | 0.00 | n/a |
| Boilers #1 and #2 | 0.12 | 0.48 | 0.48 | 0.04 | 6.29 | 0.35 | 5.28 | 7507 | 0.12 | n/a |
| Misc. LPG/Butane Combustion | 0.06 | 0.21 | 0.21 | 0.14 | 3.86 | 0.29 | 2.16 | 3778 | 0.00 | 0.00 |
| Tool Grinding Operation (Unit #8) | 1.41 | 0.42 | 0.42 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.01 | 0.01 |
| Powder Coating Booth | 6.88 | 6.88 | 6.88 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.00 | 0.00 |
| Misc. Natural Gas Comb. | 0.24 | 0.98 | 0.98 | 0.08 | 12.89 | 0.71 | 10.83 | 15560 | 0.24 | 0.00 |
| Mach. & Grind. (Machining 819) | 0.08 | 0.08 | 0.08 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.00 | 0.00 |
| Chip Wringer (CW-01) | 0.71 | 0.71 | 0.71 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.00 | 0.00 |
| Insignificant Activities (2014) | 16.12 | 16.12 | 16.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.02 | 0.02 |
| Insignificant Activities (Unspecified) | 10.00 | 10.00 | 10.00 | 0.00 | 0.00 | 10.00 | 0.00 | 0 | 0.00 | 0.00 |
| **Total** | **4,104.44** | **834.76** | **834.76** | **4.62** | **38.42** | **98.61** | **236.91** | **29,459** | **70.13** | **54.09** |

**Appendix A: Emission Calculations**
**Emission Summary (continued)**

| Process/Facility | Controlled Potential to Emit (tons/year) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | PM | $PM_{10}$ | Direct PM2.5 | $SO_2$ | $NO_x$ | VOC | CO | GHGs ($CO_2e$) | Total HAP | Lead |
| Furnace Charge/Melt/Pour (Unit #23) | 22.50 | 12.95 | 12.95 | 0.72 | 0.36 | 5.02 | 215.36 | 0 | 3.72 | 1.44 |
| Shakeout & Sand Handling (Unit #6) | 10.50 | 1.89 | 1.89 | 0.00 | 0.00 | 21.54 | 0.00 | 0 | 0.06 | 0.06 |
| Shakeout & Sand Handling for #1, #2, #3 Sintos (Unit #20) | 7.67 | 1.46 | 1.46 | 0.00 | 0.00 | 21.54 | 0.00 | 0 | 0.04 | 0.04 |
| Sand Treatment & Brass Reclaim Operations (Unit #13) | 2.37 | 0.35 | 0.35 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.01 | 0.01 |
| Didion Metal Reclaimer | 0.28 | 0.20 | 0.20 | 0.00 | 0.00 | 10.51 | 0.00 | 0 | 0.00 | 0.00 |
| Sand Handling & Drying Operation (Drying) | 0.36 | 0.40 | 0.00 | 0.01 | 0.86 | 0.05 | 0.72 | 1025 | 0.02 | 0.00 |
| Sand Handling & Drying Operation (Storage) | 0.16 | 0.11 | 0.11 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.00 | 0.00 |
| Coreroom Ventilation (Unit #19) | 0.05 | 0.09 | 0.09 | 2.91 | 5.59 | 3.17 | 0.89 | 1262 | 4.01 | 0.00 |
| Iron Room (Unit #5) | 0.18 | 0.06 | 0.06 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.00 | 0.00 |
| Shotblasting (Unit #11) | 2.03 | 0.20 | 0.20 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.12 | 0.12 |
| Shotblasting (Unit #12) | 1.02 | 0.02 | 0.10 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.06 | 0.06 |
| Shotblasting (Unit #14) | 6.10 | 0.61 | 0.61 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.02 | 0.02 |
| Shot Blast Unit (2009) (Unit #29) | 1.49 | 0.15 | 0.15 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.01 | 0.01 |
| Grinding & Cut-Off (Unit #15) | 1.85 | 0.61 | 0.61 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.18 | 0.18 |
| Cut-Off Saw (2009) (Unit #30) | 1.49 | 0.15 | 0.15 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.01 | 0.01 |
| Cut-Off Saw (SCF-06) | 0.91 | 0.91 | 0.91 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.01 | 0.01 |
| Cut-Off Saw (SCF-07) | 0.91 | 0.91 | 0.91 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.01 | 0.01 |
| Mach., Grind., & Polish (Unit #16) | 0.58 | 0.06 | 0.06 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.06 | 0.06 |
| Mach., Grind., & Polish (Unit #17) | 0.02 | 0.02 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.00 | 0.00 |
| Mach., Grind., & Polish (Unit #18) | 0.67 | 0.07 | 0.07 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.07 | 0.07 |
| Mach., Grind., & Polish (Unit #26) | 1.67 | 0.17 | 0.17 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.16 | 0.16 |
| 100 KW Generator | 0.00 | 0.00 | 0.00 | 0.00 | 1.17 | 0.03 | 0.09 | 34 | 0.02 | 0.00 |
| Two 423 HP Generators | 0.47 | 0.47 | 0.47 | 0.43 | 6.56 | 0.53 | 1.41 | 241 | 0.01 | 0.00 |
| 100 HP Fire Pump | 0.06 | 0.06 | 0.06 | 0.05 | 0.78 | 0.06 | 0.17 | 29 | 0.00 | 0.00 |
| Binks Spray Booth (Unit #21) | 0.40 | 0.40 | 0.40 | 0.00 | 0.00 | 11.96 | 0.00 | 0 | 6.22 | 0.00 |
| Nut Coat Ops. (Unit #27) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.55 | 0.00 | 0 | 0.00 | 0.00 |
| Misc. Painting and Gluing Activities | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 10.30 | 0.00 | 0 | 2.40 | 0.00 |
| Chip Dryers | 0.60 | 0.60 | 0.60 | 0.25 | 0.06 | 0.00 | 0.01 | 23 | 0.00 | n/a |
| Boilers #1 and #2 | 0.12 | 0.48 | 0.48 | 0.04 | 6.29 | 0.35 | 5.28 | 7507 | 0.12 | n/a |
| Misc. LPG/Butane Combustion | 0.06 | 0.21 | 0.21 | 0.14 | 3.86 | 0.29 | 2.16 | 3778 | 0.00 | 0.00 |
| Tool Grinding Operation (Unit #8) | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.00 | 0.00 |
| Powder Coating Booth | 0.03 | 0.03 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.00 | 0.00 |
| Misc. Natural Gas Comb. | 0.24 | 0.98 | 0.98 | 0.08 | 12.89 | 0.71 | 10.83 | 15560 | 0.24 | 0.00 |
| Mach. & Grind. (Machining 819) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.00 | 0.00 |
| Chip Wringer (CW-01) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.00 | 0.00 |
| Insignificant Activities (2014) | 0.86 | 0.86 | 0.86 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.00 | 0.00 |
| Insignificant Activities (Unspecified) | 10.00 | 10.00 | 10.00 | 0.00 | 0.00 | 10.00 | 0.00 | 0 | 0.00 | 0.00 |
| **Total** | **75.68** | **35.49** | **35.18** | **4.62** | **38.42** | **98.61** | **236.91** | **29,459** | **17.59** | **2.27** |

**Appendix A: Emission Calculations**
**Emission Summary (continued)**

| Process/Facility | Limited Potential to Emit (tons/year) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | PM | $PM_{10}$ | Direct PM2.5 | $SO_2$ | $NO_x$ | VOC | CO | GHGs ($CO_2e$) | Total HAP | Lead |
| Furnace Charge/Melt/Pour (Unit #23) | 25.01 | 25.01 | 25.01 | 0.72 | 0.36 | 5.02 | 215.36 | 0 | 5.40 | 2.40 |
| Shakeout & Sand Handling (Unit #6) | 14.98 | 14.98 | 14.98 | 0.00 | 0.00 | 21.54 | 0.00 | 0 | 0.15 | 0.15 |
| Shakeout & Sand Handling for #1, #2, #3 Sintos (Unit #20) | 14.98 | 14.98 | 14.98 | 0.00 | 0.00 | 21.54 | 0.00 | 0 | 0.15 | 0.15 |
| Sand Treatment & Brass Reclaim Operations (Unit #13) | 9.99 | 9.99 | 9.99 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.04 | 0.04 |
| Didion Metal Reclaimer | 4.99 | 4.99 | 4.99 | 0.00 | 0.00 | 10.51 | 0.00 | 0 | 0.05 | 0.05 |
| Sand Handling & Drying Operation (Drying) | 37.99 | 38.02 | 38.02 | 0.01 | 0.86 | 0.05 | 0.72 | 1,025 | 0.02 | 0.00 |
| Sand Handling & Drying Operation (Storage) | 3.28 | 2.11 | 2.11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coreroom Ventilation (Unit #19) | 0.05 | 0.09 | 0.09 | 2.91 | 5.59 | 3.17 | 0.89 | 1262 | 4.01 | 0.00 |
| Iron Room (Unit #5) | 15.19 | 5.81 | 5.81 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.07 | 0.07 |
| Shotblasting (Unit #11) | 4.99 | 4.99 | 4.99 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.52 | 0.52 |
| Shotblasting (Unit #12) | 2.01 | 2.01 | 2.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.26 | 0.26 |
| Shotblasting (Unit #14) | 14.98 | 14.98 | 14.98 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.08 | 0.08 |
| Shot Blast Unit (2009) (Unit #29) | 4.99 | 4.99 | 4.99 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.10 | 0.10 |
| Grinding & Cut-Off (Unit #15) | 14.98 | 14.98 | 14.98 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 1.50 | 1.50 |
| Cut-Off Saw (2009) (Unit #30) | 4.99 | 4.99 | 4.99 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.10 | 0.10 |
| Cut-Off Saw (SCF-06) | 11.42 | 11.42 | 11.42 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.16 | 0.16 |
| Cut-Off Saw (SCF-07) | 11.42 | 11.42 | 11.42 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.16 | 0.16 |
| Mach., Grind., & Polish (Unit #16) | 2.98 | 2.98 | 2.98 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.25 | 0.25 |
| Mach., Grind., & Polish (Unit #17) | 2.03 | 2.03 | 2.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.07 | 0.07 |
| Mach., Grind., & Polish (Unit #18) | 2.98 | 2.98 | 2.98 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.28 | 0.28 |
| Mach., Grind., & Polish (Unit #26) | 9.99 | 9.99 | 9.99 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 1.34 | 1.34 |
| 100 KW Generator | 0.00 | 0.00 | 0.00 | 0.00 | 1.17 | 0.03 | 0.09 | 34 | 0.02 | 0.00 |
| Two 423 HP Generators | 0.47 | 0.47 | 0.47 | 0.43 | 6.56 | 0.53 | 1.41 | 241 | 0.01 | 0.00 |
| 100 HP Fire Pump | 0.06 | 0.06 | 0.06 | 0.05 | 0.78 | 0.06 | 0.17 | 29 | 0.00 | 0.00 |
| Binks Spray Booth (Unit #21) | 0.40 | 0.40 | 0.40 | 0.00 | 0.00 | 11.96 | 0.00 | 0 | 6.22 | 0.00 |
| Nut Coat Ops (Unit #27) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.55 | 0.00 | 0 | 0.00 | 0.00 |
| Misc. Painting and Gluing Activities | 2.64 | 2.64 | 2.64 | 0.00 | 0.00 | 10.30 | 0.00 | 0 | 2.40 | 0.00 |
| Chip Dryers | 0.60 | 0.60 | 0.60 | 0.25 | 0.06 | 0.00 | 0.01 | 23 | 0.00 | n/a |
| Boilers #1 and #2 | 0.12 | 0.48 | 0.48 | 0.04 | 6.29 | 0.35 | 5.28 | 7507 | 0.12 | n/a |
| Misc. LPG/Butane Combustion | 0.06 | 0.21 | 0.21 | 0.14 | 3.86 | 0.29 | 2.16 | 3778 | 0.00 | 0.00 |
| Tool Grinding Operation (Unit #8) | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.00 | 0.00 |
| Powder Coating Booth | 0.03 | 0.03 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.00 | 0.00 |
| Misc. Natural Gas Comb. | 0.24 | 0.98 | 0.98 | 0.08 | 12.89 | 0.71 | 10.83 | 15560 | 0.24 | 0.00 |
| Mach. & Grind. (Machining 819) | 0.08 | 0.08 | 0.08 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chip Wringer (CW-01) | 0.71 | 0.71 | 0.71 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Insignificant Activities (2014) | 16.12 | 16.12 | 16.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.02 | 0.02 |
| Insignificant Activities (Unspecified) | 10.00 | 10.00 | 10.00 | 0.00 | 0.00 | 10.00 | 0.00 | 0 | 0.00 | 0.00 |
| **Total** | **245.76** | **236.54** | **236.53** | **4.62** | **38.42** | **98.61** | **236.92** | **29,459** | **23.74** | **7.70** |
| **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** |

**Appendix A: Emission Calculations**
**Part 70 Modification Summary**

**Company Name:** The Ford Meter Box Company, Inc.
**Address City IN Zip:** 775 Manchester Avenue, Wabash, Indiana 46992
**Significant Source Modification No.:** 169-34171-00003
**Significant Permit Modification No.:** 169-34315-00003
**Reviewer:** Curtis Taylor

| Source Modification Determination - 326 IAC 2-7-10.5 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Proposed Emission Units** | **Install Date** | **PM (TPY)** | **$PM_{10}$ (TPY)** | **$PM_{2.5}$ (TPY)** | **$SO_2$ (TPY)** | **$NO_x$ (TPY)** | **VOC (TPY)** | **CO (TPY)** | **GHGs (TPY)** | **Lead (TPY)** | **Total HAP (TPY)** |
| Cut-Off Saw (SCF-07) | 2014 | 11.42 | 11.42 | 11.42 | - | - | - | - | - | 0.16 | 0.16 |
| Sand Dryer and Screener (SD-01) (drying, screening & combustion) | 2014 | 37.99 | 38.02 | 38.02 | 0.01 | 0.86 | 0.05 | 0.72 | 1025 | 4.30E-06 | 0.02 |
| **Proposed Insignificant Activities** | | | | | | | | | | | |
| Machining & Grinding (Machining "819") | 2014 | 0.08 | 0.08 | 0.08 | - | - | - | - | - | 0.00 | 0.00 |
| Sand Pit (SP-01) | 2014 | 0.02 | 0.01 | 0.00 | - | - | - | - | - | - | - |
| Five (5) Sand Storage Silos (NST-03, NST-04, NST-05, NST-06, NST-07) | 2014 | 3.28 | 2.11 | 2.11 | - | - | - | - | - | - | - |
| **Emission Increase Due to Proposed Project** | **Total** | **52.79** | **51.65** | **51.63** | **0.01** | **0.86** | **0.05** | **0.72** | **1025** | **0.16** | **0.18** |
| | Significant Mod. Threshold | 25 | 25 | 25 | 25 | 25 | 25 | 100 | 100,000 | 1.00 | 25.00 |
| | Minor Mod. Threshold | 5 | 5 | 5 | 10 | 10 | 5 | 25 | - | 0.20 | 25.00 |

| | **Install Date** | **PM (TPY)** | **$PM_{10}$ (TPY)** | **$PM_{2.5}$ (TPY)** | **$SO_2$ (TPY)** | **$NO_x$ (TPY)** | **VOC (TPY)** | **CO (TPY)** | **GHGs (TPY)** | **Lead (TPY)** | **Total HAP (TPY)** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Unpermitted Emission Units** | | | | | | | | | | | |
| Cut-Off Saw (SCF-06) | May of 2013 | 11.42 | 11.42 | 11.42 | - | - | - | - | - | 0.16 | 0.16 |
| **Existing Insignificant Activities** | | | | | | | | | | | |
| Twenty (20) Natural Gas Heaters | 1990-2014 | 0.01 | 0.05 | 0.05 | 0.00 | 0.63 | 0.03 | 0.53 | 756 | 3.13E-06 | 0.01 |
| Furnace Ancillary Equipment - Natural Gas | 2012 | 0.15 | 0.60 | 0.60 | 0.05 | 7.88 | 0.43 | 6.62 | 9,517 | 3.94E-05 | 0.15 |
| Natural Gas Make-Up Air Unit (AMM-04) | 1990 | 0.04 | 0.17 | 0.17 | 0.01 | 2.19 | 0.12 | 1.84 | 2,644 | 1.10E-05 | 0.04 |
| Natural Gas Make-Up Air Unit (AMF-05) | 1991 | 0.02 | 0.10 | 0.10 | 0.01 | 1.31 | 0.07 | 1.10 | 1,586 | 6.57E-06 | 0.02 |
| Natural Gas Make-Up Air Unit (AMM-03) | 1996 | 0.02 | 0.07 | 0.07 | 0.01 | 0.88 | 0.05 | 0.74 | 1,057 | 4.38E-06 | 0.02 |
| Plastic Pipe Saw (SPP-01) | 1985 | 1.98 | 1.98 | 1.98 | - | - | - | - | - | - | - |
| Tool Room Machining Center (MC-03) | 2008 | 0.71 | 0.71 | 0.71 | - | - | - | - | - | 1.77E-05 | 1.77E-05 |
| Pattern Shop Machining Center (MCF-01A) | 1998 | 0.71 | 0.71 | 0.71 | - | - | - | - | - | 1.77E-05 | 1.77E-05 |
| Pattern Shop Machining Center (MCF-02) | 2004 | 0.71 | 0.71 | 0.71 | - | - | - | - | - | 1.77E-05 | 1.77E-05 |
| Pattern Shop Machining Center (MCF-03) | 2008 | 0.71 | 0.71 | 0.71 | - | - | - | - | - | 1.77E-05 | 1.77E-05 |
| Chip Wringer (CW-01) | 2010 | 0.71 | 0.71 | 0.71 | - | - | - | - | - | 1.75E-03 | 1.75E-03 |
| Magnetic Separator (MS-03) | 2010 | 0.47 | 0.47 | 0.47 | - | - | - | - | - | 9.33E-04 | 9.33E-04 |
| Inductor Rebuild Area | 1970 | 0.24 | 0.24 | 0.24 | - | - | - | - | - | 4.73E-04 | 4.73E-04 |
| Portable Vacuum System (SW-03) | 1990 | 0.90 | 0.90 | 0.90 | - | - | - | - | - | 1.80E-03 | 1.80E-03 |
| Central Vacuum System (SW-02) | pre-1990 | 4.85 | 4.85 | 4.85 | - | - | - | - | - | 0.01 | 0.01 |
| Central Vacuum System (SW-06) | 2000 | 4.85 | 4.85 | 4.85 | - | - | - | - | - | 0.01 | 0.01 |
| | **Total** | **28.50** | **29.23** | **29.23** | **0.08** | **12.89** | **0.71** | **10.83** | **15,560** | **0.18** | **0.42** |
| | **Total for Modification** | **81.29** | **80.88** | **80.86** | **0.08** | **13.75** | **0.76** | **11.55** | **16,585** | **0.34** | **0.60** |

| | PTE of Existing / Unpermitted Emission Units | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Install Date** | **PM (TPY)** | **$PM_{10}$ (TPY)** | **$PM_{2.5}$ (TPY)** | **$SO_2$ (TPY)** | **$NO_x$ (TPY)** | **VOC (TPY)** | **CO (TPY)** | **GHGs (TPY)** | **Lead (TPY)** | **Total HAP (TPY)** |
| | 1970 | 0.24 | 0.24 | 0.24 | - | - | - | - | - | 4.73E-04 | 4.73E-04 |
| | *Pre-1990 | 4.85 | 4.85 | 4.85 | - | - | - | - | - | 0.01 | 0.01 |
| | 1985 | 1.98 | 1.98 | 1.98 | - | - | - | - | - | - | - |
| | 1990 | 0.94 | 1.07 | 1.07 | 0.01 | 2.19 | 0.12 | 1.84 | 2644 | 0.00 | 0.04 |
| | 1991 | 0.02 | 0.10 | 0.10 | 0.01 | 1.31 | 0.07 | 1.10 | 1586 | 0.00 | 0.02 |
| | 1996 | 0.02 | 0.07 | 0.07 | 0.01 | 0.88 | 0.05 | 0.74 | 1057 | 0.00 | 0.02 |
| | 1998 | 0.71 | 0.71 | 0.71 | - | - | - | - | - | 0.00 | 0.00 |
| | 2000 | 4.85 | 4.85 | 4.85 | - | - | - | - | - | 0.01 | 0.01 |
| | 2004 | 0.71 | 0.71 | 0.71 | - | - | - | - | - | 0.00 | 0.00 |
| | 2008 | 1.42 | 1.42 | 1.42 | - | - | - | - | - | 0.00 | 0.00 |
| | 2010 | 1.18 | 1.18 | 1.18 | - | - | - | - | - | 0.00 | 0.00 |
| | 2012 | 0.15 | 0.60 | 0.60 | 0.05 | 7.88 | 0.43 | 6.62 | 9517 | 0.00 | 0.15 |
| | **2013 | 11.42 | 11.42 | 11.42 | - | - | - | - | - | 0.16 | 0.16 |
| | 2014 | 0.01 | 0.05 | 0.05 | 0.00 | 0.63 | 0.03 | 0.53 | 756 | 0.00 | 0.01 |
| | Significant Mod. Threshold | 25 | 25 | 25 | 25 | 25 | 25 | 100 | 100,000 | 1.00 | 25.00 |
| | Minor Mod. Threshold | 5 | 5 | 5 | 10 | 10 | 5 | 25 | - | 0.20 | 25.00 |

**Note:**
* Construction dates for the units installed pre-1990 (unless otherwise specified) are unknown.
**Only those units added in 2013 would have required pre-construction approval prior to installation since the PTE of PM, PM10, and PM2.5, each, exceeds 5 tons per year.
Emissions for the twenty (20) Natural Gas Heaters installed in 1990 through 2014 have been attributed to the 2014 year.

**Appendix A: Emission Calculations**
**Potential to Emit Calculations / Unit #23 - Charging, Melting, Pouring, and Casting**

**Company Name:** The Ford Meter Box Company, Inc.
**Address City IN Zip:** 775 Manchester Avenue, Wabash, Indiana 46992
**Significant Source Modification No.:** 169-34171-00003
**Significant Permit Modification No.:** 169-34315-00003
**Reviewer:** Curtis Taylor

| Charging - 8 Furnaces | | | | | | | Throughput | 8.195 | Baghouse UU |
|---|---|---|---|---|---|---|---|---|---|
| Pollutant | Emission Factor | | PTE (lb/hr) | PTE (TPY) | Control Efficiency | Controlled PTE (lb/hr) | Controlled PTE (TPY) | Limited PTE (TPY) | Comments |
| PM | 0.6 | lb/ton | 4.917 | 21.54 | 89.00% | 0.541 | 2.37 | See Note 7 | SCC# 3-04-003-15 |
| $PM_{10}$ | 0.36 | lb/ton | 2.950 | 12.92 | 89.00% | 0.325 | 1.42 | | SCC# 3-04-003-15 |
| $PM_{2.5}$ | 0.36 | lb/ton | 2.950 | 12.92 | 89.00% | 0.325 | 1.42 | | SCC# 3-04-003-15 |
| Lead | 0.038 | lb/ton | 0.311 | 1.36 | 89.00% | 0.034 | 0.15 | See Note 8 | Source analysis: lead content is 6.41% of PM emissions |
| Total HAP | | | 0.311 | 1.36 | | 0.034 | 0.15 | See Note 9 | |

| Melting - 8 Furnaces | | | | | | | Throughput | 8.195 | Baghouse UU |
|---|---|---|---|---|---|---|---|---|---|
| Pollutant | Emission Factor | | PTE (lb/hr) | PTE (TPY) | Control Efficiency | Controlled PTE (lb/hr) | Controlled PTE (TPY) | Limited PTE (TPY) | Comments |
| PM | 0.90 | lb/ton | 7.376 | 32.31 | 89.00% | 0.811 | 3.55 | See Note 7 | SCC# 3-04-003-03 |
| $PM_{10}$ | 0.86 | lb/ton | 7.048 | 30.87 | 89.00% | 0.775 | 3.40 | | SCC# 3-04-003-03 |
| $PM_{2.5}$ | 0.86 | lb/ton | 7.048 | 30.87 | 89.00% | 0.775 | 3.40 | | SCC# 3-04-003-03 |
| Manganese | 0.0225 | lb/ton | 0.184 | 0.81 | 89.00% | 0.02 | 0.09 | 0.81 | SCC# 3-04-003-03 |
| Lead | 0.058 | lb/ton | 0.475 | 2.08 | 89.00% | 0.052 | 0.23 | See Note 8 | Source analysis: lead content is 6.41% of PM emissions |
| Total HAP | | | 0.660 | 2.89 | | 0.07 | 0.32 | See Note 9 | |

| Pouring and Casting | | | | | | | Throughput | 8.195 | Baghouse UU |
|---|---|---|---|---|---|---|---|---|---|
| Pollutant | Emission Factor | | PTE (lb/hr) | PTE (TPY) | Control Efficiency | Controlled PTE (lb/hr) | Controlled PTE (TPY) | Limited PTE (TPY) | Comments |
| PM | 4.20 | lb/ton | 34.419 | 150.76 | 89.00% | 3.786 | 16.58 | See Note 7 | SCC# 3-04-003-20 |
| $PM_{10}$ | 2.06 | lb/ton | 16.882 | 73.94 | 89.00% | 1.857 | 8.13 | | SCC# 3-04-003-20 |
| $PM_{2.5}$ | 2.06 | lb/ton | 16.882 | 73.94 | 89.00% | 1.857 | 8.13 | | SCC# 3-04-003-20 |
| $SO_2$ | 0.02 | lb/ton | 0.164 | 0.72 | 0.00% | 0.164 | 0.72 | 0.72 | SCC# 3-04-003-20 |
| NOx | 0.01 | lb/ton | 0.082 | 0.36 | 0.00% | 0.082 | 0.36 | 0.36 | SCC# 3-04-003-20 |
| VOC | 0.14 | lb/ton | 1.147 | 5.02 | 0.00% | 1.147 | 5.02 | 5.02 | SCC# 3-04-003-20 |
| CO | 6.00 | lb/ton | 49.170 | 215.36 | 0.00% | 49.170 | 215.36 | 215.36 | See Note 7 |
| Lead | 0.269 | lb/ton | 2.204 | 9.65 | 89.00% | 0.242 | 1.06 | See Note 8 | Source analysis: lead content is 6.41% of PM emissions |
| Total Organic HAP | 0.061 | lb/ton | 0.500 | 2.19 | 0.00% | 0.500 | 2.19 | 2.19 | See Note 6 |
| Total HAP | | | 2.704 | 11.84 | | 0.742 | 3.25 | See Note 9 | Sum of lead and total organic HAP |

**Notes:**
1) PM2.5 is assumed to equal PM10
2) The source cannot run the box induction furnace and the crucible induction furnace at the same time.
3) The CO and Total Organic HAPs emission factors include pouring, cooling and shakeout processes.
4) Charging (8 furnaces) and Melting for Unit #23 include: 6 Channel Induction Furnaces (1.25 ton/hr, each), 1 Box Induction Furnace (0.695 ton/hr) 1 Crucible Furnace (0.53 ton/hr).
5) Pouring and Casting for Unit #23 (7 Lines) include: #1 Handline, Sinto #1, Sinto #2, Sinto #3, Sinto #4, Harrison #1, and Harrison #2
6) Emission factor is from "Organic Hazardous Air Pollutant Emission Factors for Iron Foundries," James Schifo, American Foundry Society, June 17, 2007 (Phenolic Hot Box Cores) and the CO emission factor is from an August 11, 2006 memmo from the Indiana Cast Metals Association.
7) PSD Minor Limit for total PM, PM10, PM2.5 emissions from Unit #23 at 5.71 lb/hr or 25.01 TPY
8) HAP Minor Limit for total lead emissions from Unit #23 at 0.548 lb/hr or 2.4 TPY.
9) Total HAP after limit is 2.4 TPY from lead + 3.0 TPY from other HAP = 5.4 TPY.

**Methodology:**
1) Emissions (lb/hr) = Throughput (ton/hr) x Emission Factor (lb/ton)
2) Emissions (TPY) = Emissions (lb/hr) x 8,760 hr/yr x 1 ton / 2,000 lb
3) Controlled Emissions (lb/hr) = Emissions (lb/hr) x (1 - control efficiency)
4) Controlled Emissions (TPY) = Emissions (TPY) x (1- control efficiency)

**Appendix A: Emission Calculations**
**Sand Handling and Shakeout Operations**

**Company Name:** The Ford Meter Box Company, Inc.
**Address City IN Zip:** 775 Manchester Avenue, Wabash, Indiana 46992
**Significant Source Modification No.:** 169-34171-00003
**Significant Permit Modification No.:** 169-34315-00003
**Reviewer:** Curtis Taylor

| Sand Handling Unit #6 | | | | | | | Throughput | 63.00 | Baghouse H |
|---|---|---|---|---|---|---|---|---|---|
| Pollutant | Emission Factor | | PTE (lb/hr) | PTE (TPY) | Control Efficiency | Controlled PTE (lb/hr) | Controlled PTE (TPY) | Limited PTE (TPY) | Comments |
| PM | 3.6 | lb/ton | 226.800 | 993.38 | 99.00% | 2.268 | 9.93 | See Note: (a) | SCC# 3-04-003-50 |
| $PM_{10}$ | 0.54 | lb/ton | 34.020 | 149.01 | 99.00% | 0.34 | 1.49 | | SCC# 3-04-003-50 |
| $PM_{2.5}$ | 0.54 | lb/ton | 34.020 | 149.01 | 99.00% | 0.34 | 1.49 | | SCC# 3-04-003-50 |
| Lead | 0.0112104 | lb/ton | 0.706 | 3.09 | 98.00% | 0.014 | 0.06 | See Note: (b) | Source analysis: lead content is 6.41% of PM emissions |

| Shakeout Unit #6 | | | | | | | Throughput | 4.0975 | Baghouse H |
|---|---|---|---|---|---|---|---|---|---|
| Pollutant | Emission Factor | | PTE (lb/hr) | PTE (TPY) | Control Efficiency | Controlled PTE (lb/hr) | Controlled PTE (TPY) | Limited PTE (TPY) | Comments |
| PM | 3.20 | lb/ton | 13.112 | 57.43 | 99.00% | 0.131 | 0.57 | See Note: (a) | SCC# 3-04-003-31 |
| $PM_{10}$ | 2.24 | lb/ton | 9.178 | 40.20 | 99.00% | 0.092 | 0.40 | | SCC# 3-04-003-31 |
| $PM_{2.5}$ | 2.24 | lb/ton | 9.178 | 40.20 | 99.00% | 0.092 | 0.40 | | SCC# 3-04-003-31 |
| VOC | 1.2 | lb/ton | 4.917 | 21.54 | 0.00% | 4.917 | 21.54 | 21.54 | SCC# 3-04-003-31 |
| Lead | 0.0099648 | lb/ton | 0.041 | 0.18 | 98.00% | 0.001 | 0.004 | 0.18 | Source analysis: lead content is 6.41% of PM emissions |

| Sand Handling Unit #20 | | | | | | | Throughput | 45.00 | Baghouse KK |
|---|---|---|---|---|---|---|---|---|---|
| Pollutant | Emission Factor | | PTE (lb/hr) | PTE (TPY) | Control Efficiency | Controlled PTE (lb/hr) | Controlled PTE (TPY) | Limited PTE (TPY) | Comments |
| PM | 3.6 | lb/ton | 162.000 | 709.56 | 99.00% | 1.62 | 7.10 | See Note: (c) | SCC# 3-04-003-50 |
| $PM_{10}$ | 0.54 | lb/ton | 24.300 | 106.43 | 99.00% | 0.243 | 1.06 | | SCC# 3-04-003-50 |
| $PM_{2.5}$ | 0.54 | lb/ton | 24.300 | 106.43 | 99.00% | 0.243 | 1.06 | | SCC# 3-04-003-50 |
| Lead | 0.0112104 | lb/ton | 0.504 | 2.21 | 98.00% | 0.01 | 0.04 | See Note: (d) | Source analysis: lead content is 6.41% of PM emissions |

| Shakeout Unit #20 | | | | | | | Throughput | 4.0975 | Baghouse KK |
|---|---|---|---|---|---|---|---|---|---|
| Pollutant | Emission Factor | | PTE (lb/hr) | PTE (TPY) | Control Efficiency | Controlled PTE (lb/hr) | Controlled PTE (TPY) | Limited PTE (TPY) | Comments |
| PM | 3.20 | lb/ton | 13.112 | 57.43 | 99.00% | 0.131 | 0.57 | See Note: (c) | SCC# 3-04-003-31 |
| $PM_{10}$ | 2.24 | lb/ton | 9.178 | 40.20 | 99.00% | 0.092 | 0.40 | | SCC# 3-04-003-31 |
| $PM_{2.5}$ | 2.24 | lb/ton | 9.178 | 40.20 | 99.00% | 0.092 | 0.40 | | SCC# 3-04-003-31 |
| VOC | 1.2 | lb/ton | 4.917 | 21.54 | 0.00% | 4.917 | 21.54 | 21.54 | SCC# 3-04-003-31 |
| Lead | 0.0099648 | lb/ton | 0.041 | 0.18 | 98.00% | 0.001 | 0.004 | See Note: (d) | Source analysis: lead content is 6.41% of PM emissions |

| Sand Handling Unit #13 | | | | | | | Throughput | 15.00 | Baghouse T |
|---|---|---|---|---|---|---|---|---|---|
| Pollutant | Emission Factor | | PTE (lb/hr) | PTE (TPY) | Control Efficiency | Controlled PTE (lb/hr) | Controlled PTE (TPY) | Limited PTE (TPY) | Comments |
| PM | 3.6 | lb/ton | 54.000 | 236.52 | 99.00% | 0.54 | 2.37 | 9.99 | SCC# 3-04-003-50 |
| $PM_{10}$ | 0.54 | lb/ton | 8.100 | 35.48 | 99.00% | 0.081 | 0.35 | 9.99 | SCC# 3-04-003-50 |
| $PM_{2.5}$ | 0.54 | lb/ton | 8.100 | 35.48 | 99.00% | 0.081 | 0.35 | 9.99 | SCC# 3-04-003-50 |
| Lead | 0.0072 | lb/ton | 0.108 | 0.47 | 98.00% | 0.002 | 0.01 | 0.04 | Source analysis: lead content is 6.41% of PM emissions |

| Didion Rotary Metal Reclaimer | | | | | | | Throughput | 2.0000 | Baghouse G |
|---|---|---|---|---|---|---|---|---|---|
| Pollutant | Emission Factor | | PTE (lb/hr) | PTE (TPY) | Control Efficiency | Controlled PTE (lb/hr) | Controlled PTE (TPY) | Limited PTE (TPY) | Comments |
| PM | 3.20 | lb/ton | 6.40 | 28.03 | 99.00% | 0.064 | 0.28 | 4.99 | SCC# 3-04-003-31 |
| $PM_{10}$ | 2.24 | lb/ton | 4.48 | 19.62 | 99.00% | 0.045 | 0.20 | 4.99 | SCC# 3-04-003-31 |
| $PM_{2.5}$ | 2.24 | lb/ton | 4.48 | 19.62 | 99.00% | 0.045 | 0.20 | 4.99 | SCC# 3-04-003-31 |
| VOC | 1.2 | lb/ton | 2.40 | 10.51 | 0.00% | 2.4 | 10.51 | 10.51 | SCC# 3-04-003-31 |
| Lead | 0.0064 | lb/ton | 0.013 | 0.06 | 98.00% | 2.60E-04 | 0.001 | 0.06 | Source analysis: lead content is 6.41% of PM emissions |

**Notes:**

(a) Combined PM, $PM_{10}$ and $PM_{2.5}$ emissions from Unit #6 are each limited to 3.42 lb/hr or 14.98 TPY
(b) Combined lead emissions from Unit #6 are limited to 0.034 lb/hr or 0.15 TPY
(c) Combined PM, PM10 and PM2.5 emissions from Unit #20 are each limited to 3.42 lb/hr or 14.98 TPY
(d) Combined lead emissions from Unit #20 are limited to 0.034 lb/hr or 0.15 TPY
1) PM2.5 is assumed to equal PM10
2) The source cannot run the box induction furnace and the crucible induction furnace at the same time.
3) The CO and Total Organic HAPs emission factors include pouring, cooling and shakeout processes.
4) Charging (8 furnaces) and Melting for Unit #23 include: 6 Channel Induction Furnaces (1.25 ton/hr, each), 1 Box Induction Furnace (0.695 ton/hr) 1 Crucible Furnace (0.53 ton/hr).
5) Pouring and Casting for Unit #23 (7 Lines) include: #1 Handline, Sinto #1, Sinto #2, Sinto #3, Sinto #4, Harrison #1, and Harrison #2
6) Emission factor is from "Organic Hazardous Air Pollutant Emission Factors for Iron Foundries," James Schifo, American Foundry Society, June 17, 2007 (Phenolic Hot Box Cores)
7) CO emission factor from an August 11, 2006 memmo from the Indiana Cast Metals Association.

**Methodology:**

1) Emissions (lb/hr) = Throughput (ton/hr) x Emission Factor (lb/ton)
2) Emissions (TPY) = Emissions (lb/hr) x 8,760 hr/yr x 1 ton / 2,000 lb
3) Controlled Emissions (lb/hr) = Emissions (lb/hr) x (1 - control efficiency)
4) Controlled Emissions (TPY) = Emissions (TPY) x (1- control efficiency)
5) Limited PTE (TPY) is based on permit limit or rule limit.

**Appendix A: Emission Calculations**
**Sand Handling & Drying Operation**

**Company Name:** The Ford Meter Box Company, Inc.
**Address City IN Zip:** 775 Manchester Avenue, Wabash, Indiana 46992
**Significant Source Modification No.:** 169-34171-00003
**Significant Permit Modification No.:** 169-34315-00003
**Reviewer:** Curtis Taylor

| Sand Pit (SP-01) | | | | | Unlimited | Throughput | 4.00 | Uncontrolled |
|---|---|---|---|---|---|---|---|---|
| **Pollutant** | **Emission Factor (Sand Handled)** | | **Uncontrolled PTE (lb/hr)(1)** | **Uncontrolled PTE (TPY) (3)** | **Control Efficiency** | **Controlled PTE (lb/hr) (4)** | **Controlled PTE (TPY) (6)** | **Comments** |
| PM | 1.18E-03 | lb/ton | 0.005 | 0.02 | 0.0% | 0.005 | 0.02 | AP-42, Ch 13.2.4, Eqn. (1), 11/06, k=0.74 , U=9.545, M=6.0 |
| $PM_{10}$ | 5.58E-04 | lb/ton | 0.002 | 0.01 | 0.0% | 0.002 | 0.01 | AP-42, Ch 13.2.4, Eqn. (1), 11/06, k=0.35 , U=9.545, M=6.0 |
| $PM_{2.5}$ | 8.44314E-05 | lb/ton | 0.0003 | 0.001 | 0.0% | 0.0003 | 0.001 | AP-42, Ch 13.2.4, Eqn. (1), 11/06, k=0.053 , U=9.545, M=6.0 |

| Sand Dryer and Screener (SD-01) (sand drying) | | | | | Unlimited | Throughput | 4.00 | Baghouse SD & Stack SD |
|---|---|---|---|---|---|---|---|---|
| **Pollutant** | **Emission Factor (Sand Handled)** | | **Uncontrolled PTE (lb/hr)(1)** | **Uncontrolled PTE (TPY) (3)** | **Control Efficiency** | **Controlled PTE (lb/hr) (5)** | **Controlled PTE (TPY) (6)** | **Comments** |
| PM | 2.000 | lb/ton | 8.00 | 35.04 | - | - | - | AP-42, Table 11.19.1-1, SCC# 3-05-027-20, for uncontrolled sand dryer. |
| $PM_{10}$ | 2.000 | lb/ton | 8.00 | 35.04 | - | - | - | PM10 is assumed to equal PM. |
| $PM_{2.5}$ | 2.000 | lb/ton | 8.00 | 35.04 | - | - | - | PM2.5 is assumed to equal PM10. |
| PM | 0.010 | lb/ton | - | - | 99.0% | 0.04 | 0.18 | AP-42, Table 11.19.1-1, SCC# 3-05-027-20, controlled with fabric filter |
| $PM_{10}$ | 0.010 | lb/ton | - | - | 99.0% | 0.04 | 0.18 | PM10 is assumed to equal PM (with fabric filter). |
| $PM_{2.5}$ | 0.010 | lb/ton | - | - | 99.0% | 0.04 | 0.18 | PM2.5 is assumed to equal PM10 (with fabric filter). |

| Sand Dryer and Screener (SD-01) (screening) | | | | | Unlimited | Throughput | 4.00 | Baghouse SD & Stack SD |
|---|---|---|---|---|---|---|---|---|
| **Pollutant** | **Emission Factor (Sand Handled)** | | **Uncontrolled PTE (lb/hr)(2)** | **Uncontrolled PTE (TPY) (3)** | **Control Efficiency** | **Controlled PTE (lb/hr) (5)** | **Controlled PTE (TPY) (6)** | **Comments** |
| PM | 8.30E-03 | lb/ton | - | - | - | 0.03 | 0.15 | AP-42, Ch. 11.19.1, SCC# 3-05-027-13, for Sand Screening with venturi scrubber factor for control. |
| $PM_{10}$ | 8.30E-03 | lb/ton | - | - | - | 0.03 | 0.15 | PM10 is assumed to equal PM. |
| $PM_{2.5}$ | 8.30E-03 | lb/ton | - | - | - | 0.03 | 0.15 | PM2.5 is assumed to equal PM10. |
| PM | 8.30E-03 | lb/ton | 0.66 | 2.91 | 95.0% | - | - | Back-calculated from controlled emission rate assuming 95% control efficiency from sand screener's baghouse. |
| $PM_{10}$ | 8.30E-03 | lb/ton | 0.66 | 2.91 | 95.0% | - | - | PM10 is assumed to equal PM (with fabric filter). |
| $PM_{2.5}$ | 8.30E-03 | lb/ton | 0.66 | 2.91 | 95.0% | - | - | PM2.5 is assumed to equal PM10 (with fabric filter). |

**Methodology:**

1) Uncontrolled PTE (lb/hr) = Throughput (ton/hr) x Uncontrolled Emission Factor (lb/ton)
2) Unontrolled PTE (lb/hr) = Controlled PTE (lb/hr) / (1 - control efficiency)
3) Uncontrolled PTE (TPY) = Emissions (lb/hr) x 8,760 (hr/yr) x (1 ton/ 2,000 lb)
4) Controlled PTE (lb/hr) = PTE (lb/hr) x (1- control efficiency)
5) Controlled PTE (lb/hr) = Throughput (ton/hr) x Controlled Emission Factor (lb/ton)
6) Controlled PTE (TPY) = Controlled Emissions (lb/hr) x 8,760 (hr/yr) x (1 ton/ 2,000 lb)

**Appendix A: Emission Calculations**
**Sand Handling & Drying Operation (continued)**

**Sand Dryer and Screener (SD-01) (natural gas combustion)**

| | | |
|---|---|---|
| Heat Input Capacity | 2.00 | MMBtu/hr |
| Higher Heating Value | 1,020 | MMBtu/MMCF |
| Natural Gas Usage | 17.18 | MMCF/year |

**Sand Dryer and Screener (SD-01) Combustion Emissions**

| Pollutant | Emission Factor | | PTE (TPY) | Control Efficiency | Controlled PTE (TPY) | Comments |
|---|---|---|---|---|---|---|
| PM | 1.9 | lb/MMCF | 0.02 | 0.00% | 0.02 | AP-42, Ch 1.4, Table 1.4-2, 7/98 |
| PM10 (filterable + condensable) | 7.6 | lb/MMCF | 0.07 | 0.00% | 0.07 | AP-42, Ch 1.4, Table 1.4-2, 7/98 |
| PM2.5 (filterable + condensable) | 7.6 | lb/MMCF | 0.07 | 0.00% | 0.07 | AP-42, Ch 1.4, Table 1.4-2, 7/98 |
| SO2 | 0.6 | lb/MMCF | 5.15E-03 | 0.00% | 5.15E-03 | AP-42, Ch 1.4, Table 1.4-2, 7/98 |
| NOx | 100 | lb/MMCF | 0.86 | 0.00% | 0.86 | AP-42, Ch 1.4, Table 1.4-1, 7/98 |
| VOC | 5.5 | lb/MMCF | 0.05 | 0.00% | 0.05 | AP-42, Ch 1.4, Table 1.4-2, 7/98 |
| CO | 84 | lb/MMCF | 0.72 | 0.00% | 0.72 | AP-42, Ch 1.4, Table 1.4-1, 7/98 |
| Lead | 5.00E-04 | lb/MMCF | 4.30E-06 | 0.00% | 4.30E-06 | AP-42, Ch 1.4, Table 1.4-2, 7/98 |
| Benzene | 2.10E-03 | lb/MMCF | 1.80E-05 | 0.00% | 1.80E-05 | AP-42, Ch 1.4, Table 1.4-3, 7/98 |
| Dichlorobenzene | 1.20E-03 | lb/MMCF | 1.03E-05 | 0.00% | 1.03E-05 | AP-42, Ch 1.4, Table 1.4-3, 7/98 |
| Formaldehyde | 7.50E-02 | lb/MMCF | 6.44E-04 | 0.00% | 6.44E-04 | AP-42, Ch 1.4, Table 1.4-3, 7/98 |
| Hexane | 1.8 | lb/MMCF | 1.55E-02 | 0.00% | 0.02 | AP-42, Ch 1.4, Table 1.4-3, 7/98 |
| Toluene | 3.40E-03 | lb/MMCF | 2.92E-05 | 0.00% | 2.92E-05 | AP-42, Ch 1.4, Table 1.4-3, 7/98 |
| Cadmium | 1.10E-03 | lb/MMCF | 9.45E-06 | 0.00% | 9.45E-06 | AP-42, Ch 1.4, Table 1.4-4, 7/98 |
| Chromium | 1.40E-03 | lb/MMCF | 1.20E-05 | 0.00% | 1.20E-05 | AP-42, Ch 1.4, Table 1.4-4, 7/98 |
| Manganese | 3.80E-04 | lb/MMCF | 3.26E-06 | 0.00% | 3.26E-06 | AP-42, Ch 1.4, Table 1.4-4, 7/98 |
| Nickel | 2.10E-03 | lb/MMCF | 1.80E-05 | 0.00% | 1.80E-05 | AP-42, Ch 1.4, Table 1.4-4, 7/98 |
| Total HAP | | | 0.02 | | 0.02 | |
| $CO_2$ | 53.02 | kg/MMBtu | 1,024 | 0.00% | 1,024 | 40 CFR 98, Subpart C, Table C-1 |
| $CH_4$ | 1.00E-03 | kg/MMBtu | 1.93E-02 | 0.00% | 1.93E-02 | 40 CFR 98, Subpart C, Table C-2 |
| $N_2O$ | 1.00E-04 | kg/MMBtu | 1.93E-03 | 0.00% | 1.93E-03 | 40 CFR 98, Subpart C, Table C-2 |
| $CO_2e$ | | | 1,025 | | 1,025 | |

**Methodology:**

1) Emissions (lb/hr) = Throughput (ton/hr) x Emission Factor (lb/ton)
2) Emissions (TPY) = Emissions (lb/hr) x 8,760 hr/yr x 1 ton / 2,000 lb
3) Controlled Emissions (TPY) = Emissions (TPY) x (1- control efficiency)
4) Limited PTE (TPY) is based on permit limit or rule limit.
5) Gas throughput (MMCF/year) = MMBtu/hr x 8,760 hr/yr x 1 / Heat Content (MMBtu/MMCF)
6) Potential Emissions (TPY) = Emission Factor (lb/MMCF) x Usage (MMCF/yr) x 1 ton/2,000 lb
7) Potential Emissions (TPY) = Emission Factor (kg/MMBtu) x 2.2046 lb/kg x Heat Input (MMBtu/hr) x 4.38 ton-hr/lb-year
8) PTE ($CO_2e$) = PTE $CO_2$ + (PTE $CH_4$ x 21) + (PTE $N_2O$ x 310)
9) Global warming potentials are from Table A-1 of 40 CFR 98, Subpart A

| | **Total: SD-01 & SP-01** | |
|---|---|---|
| Pollutant | PTE (tons/yr) | Controlled (tons/yr) |
| PM | 37.99 | 0.36 |
| $PM_{10}$ | 38.02 | 0.40 |
| $PM_{2.5}$ | 38.02 | 0.39 |
| $SO_2$ | 5.15E-03 | 5.15E-03 |
| NOx | 0.86 | 0.86 |
| VOC | 4.72E-02 | 4.72E-02 |
| CO | 7.22E-01 | 7.22E-01 |
| Total HAP | 0.02 | 0.02 |
| Single Worst HAP | 0.02 | 0.02 |
| $CO_2e$ | 1,025 | 1,025 |

**Appendix A: Emission Calculations**
**Sand Storage**

**Company Name:** The Ford Meter Box Company, Inc.
**Address City IN Zip:** 775 Manchester Avenue, Wabash, Indiana 46992
**Significant Source Modification No.:** 169-34171-00003
**Significant Permit Modification No.:** 169-34315-00003
**Reviewer:** Curtis Taylor

| Molding Sand Storage Tank (NST-03) | | | | | | Throughput | 0.205 | BV-03 |
|---|---|---|---|---|---|---|---|---|
| **Pollutant** | **Emission Factor** | | **PTE (lb/hr)** | **PTE (TPY)** | **Control Efficiency** | **Controlled PTE (lb/hr)** | **Controlled PTE (TPY)** | **Comments** |
| PM | 0.73 | lb/ton | 0.15 | 0.66 | 95.0% | 0.01 | 0.03 | SCC# 3-05-011-07 |
| $PM_{10}$ | 0.47 | lb/ton | 0.10 | 0.42 | 95.0% | 0.005 | 0.02 | SCC# 3-05-011-07 |
| $PM_{2.5}$ | 0.47 | lb/ton | 0.10 | 0.42 | 95.0% | 0.005 | 0.02 | $PM_{2.5}$=$PM_{10}$ |

| Molding Sand Storage Tank (NST-04) | | | | | | Throughput | 0.205 | BV-04 |
|---|---|---|---|---|---|---|---|---|
| **Pollutant** | **Emission Factor** | | **PTE (lb/hr)** | **PTE (TPY)** | **Control Efficiency** | **Controlled PTE (lb/hr)** | **Controlled PTE (TPY)** | **Comments** |
| PM | 0.73 | lb/ton | 0.15 | 0.66 | 95.0% | 0.01 | 0.03 | SCC# 3-05-011-07 |
| $PM_{10}$ | 0.47 | lb/ton | 0.10 | 0.42 | 95.0% | 0.005 | 0.02 | SCC# 3-05-011-07 |
| $PM_{2.5}$ | 0.47 | lb/ton | 0.10 | 0.42 | 95.0% | 0.005 | 0.02 | $PM_{2.5}$=$PM_{10}$ |

| Molding Sand Storage Tank (NST-05) | | | | | | Throughput | 0.205 | BV-05 |
|---|---|---|---|---|---|---|---|---|
| **Pollutant** | **Emission Factor** | | **PTE (lb/hr)** | **PTE (TPY)** | **Control Efficiency** | **Controlled PTE (lb/hr)** | **Controlled PTE (TPY)** | **Comments** |
| PM | 0.73 | lb/ton | 0.15 | 0.66 | 95.0% | 0.01 | 0.03 | SCC# 3-05-011-07 |
| $PM_{10}$ | 0.47 | lb/ton | 0.10 | 0.42 | 95.0% | 0.005 | 0.02 | SCC# 3-05-011-07 |
| $PM_{2.5}$ | 0.47 | lb/ton | 0.10 | 0.42 | 95.0% | 0.005 | 0.02 | $PM_{2.5}$=$PM_{10}$ |

| Molding Sand Storage Tank (NST-06) | | | | | | Throughput | 0.205 | BV-06 |
|---|---|---|---|---|---|---|---|---|
| **Pollutant** | **Emission Factor** | | **PTE (lb/hr)** | **PTE (TPY)** | **Control Efficiency** | **Controlled PTE (lb/hr)** | **Controlled PTE (TPY)** | **Comments** |
| PM | 0.73 | lb/ton | 0.15 | 0.66 | 95.0% | 0.01 | 0.03 | SCC# 3-05-011-07 |
| $PM_{10}$ | 0.47 | lb/ton | 0.10 | 0.42 | 95.0% | 0.005 | 0.02 | SCC# 3-05-011-07 |
| $PM_{2.5}$ | 0.47 | lb/ton | 0.10 | 0.42 | 95.0% | 0.005 | 0.02 | $PM_{2.5}$=$PM_{10}$ |

| Molding Sand Storage Tank (NST-07) | | | | | | Throughput | 0.205 | BV-07 |
|---|---|---|---|---|---|---|---|---|
| **Pollutant** | **Emission Factor** | | **PTE (lb/hr)** | **PTE (TPY)** | **Control Efficiency** | **Controlled PTE (lb/hr)** | **Controlled PTE (TPY)** | **Comments** |
| PM | 0.73 | lb/ton | 0.15 | 0.66 | 95.0% | 0.01 | 0.03 | SCC# 3-05-011-07 |
| $PM_{10}$ | 0.47 | lb/ton | 0.10 | 0.42 | 95.0% | 0.005 | 0.02 | SCC# 3-05-011-07 |
| $PM_{2.5}$ | 0.47 | lb/ton | 0.10 | 0.42 | 95.0% | 0.005 | 0.02 | $PM_{2.5}$=$PM_{10}$ |

| Total Molding Sand Storage Tanks | | | | | | |
|---|---|---|---|---|---|---|
| **Pollutant** | | **PTE (lb/hr)** | **PTE (TPY)** | **Control Efficiency** | **Controlled PTE (lb/hr)** | **Controlled PTE (TPY)** |
| PM | | 0.75 | 3.28 | 95.0% | 0.04 | 0.16 |
| $PM_{10}$ | | 0.48 | 2.11 | 95.0% | 0.024 | 0.11 |
| $PM_{2.5}$ | | 0.48 | 2.11 | 95.0% | 0.024 | 0.11 |

**Notes:**
Each tank is bottlenecked by the amount of sand that can be conveyed from the bottom of the silo.
This is the maximum capacity used for purposes of determining compliance with 326 IAC 2-2.
Each tank can be filled pneumatically by tanker trucks at a rate of 20 tons per hour. However, each tank operates at its bottlenecked rate.
This is the process weight used for determining compliance with 326 IAC 6-3-2 since it is the more stringent of the two throughputs.
PM2.5 is assumed to equal PM10.

**Methodology:**
Emissions (lb/hr) = Throughput (ton/hr) x Emission Factor (lb/ton)
Emissions (TPY) = Emissions (lb/hr) x 8,760 (hr/yr) ÷ 2,000 (lb/ton)
Controlled Emissions (lb/hr) = Emissions (lb/hr) x (1 - control efficiency)
Controlled Emissions (TPY) = Emissions (TPY) x (1- control efficiency)

**Appendix A: Emission Calculations**
**Core Making Operation**

**Company Name:** The Ford Meter Box Company, Inc.
**Address City IN Zip:** 775 Manchester Avenue, Wabash, Indiana 46992
**Significant Source Modification No.:** 169-34171-00003
**Significant Permit Modification No.:** 169-34315-00003
**Reviewer:** Curtis Taylor

| Warm Box Sand (Unit #19) 13 Core Making Units | | | | Unlimited | Throughput | 2.068 | Uncontrolled |
|---|---|---|---|---|---|---|---|
| **Pollutant** | **Emission Factor (Sand Handled)** | **PTE (lb/hr)** | **PTE (TPY)** | **Control Efficiency** | **Controlled PTE (lb/hr)** | **Controlled PTE (TPY)** | **Comments** |
| PM | 0.0030 lb/ton | 0.01 | 0.03 | 0.0% | 0.01 | 0.03 | SCC # 3-05-020-06 |
| $PM_{10}$ | 0.0011 lb/ton | 0.00 | 0.01 | 0.0% | 0.00 | 0.01 | SCC # 3-05-020-06 |
| $PM_{2.5}$ | 0.0011 lb/ton | 0.00 | 0.01 | 0.0% | 0.00 | 0.01 | See Note 1 |
| $SO_2$ | 0.32 lb/ton | 0.66 | 2.90 | 0.0% | 0.66 | 2.90 | SCC # 3-04-003-70 |
| NOx | 0.50 lb/ton | 1.03 | 4.53 | 0.0% | 1.03 | 4.53 | SCC # 3-04-003-70 |
| VOC | 0.343525 lb/ton | 0.71 | 3.11 | 0.0% | 0.71 | 3.11 | Manufacturer Test Result |
| Formaldehyde | 0.0112 lb/ton | 0.02 | 0.10 | 0.0% | 0.02 | 0.10 | Manufacturer Test Result |
| Ethylene Glycol | 0.42 lb/ton | 0.87 | 3.80 | 0.0% | 0.87 | 3.80 | Manufacturer Test Result |
| Phenol | 0.00056 lb/ton | 0.001 | 0.005 | 0.0% | 0.001 | 0.005 | Manufacturer Test Result |
| Methanol | 0.00875 lb/ton | 0.02 | 0.08 | 0.0% | 0.02 | 0.08 | Manufacturer Test Result |
| Total HAP | | 0.91 | 3.99 | 0.0% | 0.91 | 3.99 | Sum of Individual HAP |

**Notes:**

1) $PM_{2.5}$ is assumed to equal $PM_{10}$
2) Total emissions from the core making operation include metal handling, sand handling and combustion.
3) Emission Factors (PM, PM10, PM2.5, SO2 and NOx) for Unit #19, Core Making Units, were updated to more closely reflected the facilities actual production process.

**Methodology:**

1) Emissions (lb/hr) = Throughput (ton/hr) x Emission Factor (lb/ton)
2) Emissions (TPY) = Emissions (lb/hr) x 8,760 hr/yr x 1 ton / 2,000 lb
3) Controlled Emissions (TPY) = Emissions (TPY) x (1- control efficiency)
4) Limited PTE (TPY) is based on permit limit or rule limit.
5) Gas throughput (MMCF/year) = MMBtu/hr x 8,760 hr/yr x 1 / Heat Content (MMBtu/MMCF)
6) Potential Emissions (TPY) = Emision Factor (lb/MMCF) x Usage (MMCF/yr) x 1 ton/2,000 lb
7) Potential Emissions (TPY) = Emission Factor (kg/MMBtu) x 2.2046 lb/kg x Heat Input (MMBtu/hr) x 4.38 ton-hr/lb-year
8) PTE ($CO_2e$) = PTE $CO_2$ + (PTE $CH_4$ x 25) + (PTE $N_2O$ x 298)
9) Global warming potentials are from Table A-1 of 40 CFR 98, Subpart A

| | | |
|---|---|---|
| Heat Input Capacity | 2.464 | MMBtu/hr |
| Higher Heating Value | 1,020 | MMBtu/MMCF |
| Natural Gas Usage | 21.16 | MMCF/year |

| Unit #19 Combustion Emissions | | | | | | |
|---|---|---|---|---|---|---|
| **Pollutant** | **Emission Factor** | | **PTE (TPY)** | **Control Efficiency** | **Controlled PTE (TPY)** | **Comments** |
| PM | 1.9 | lb/MMCF | 0.02 | 0.00% | 0.02 | AP-42, Ch 1.4, Table 1.4-2, 7/98 |
| PM10 | 7.6 | lb/MMCF | 0.08 | 0.00% | 0.08 | AP-42, Ch 1.4, Table 1.4-2, 7/98 |
| PM2.5 (filterable | 7.6 | lb/MMCF | 0.08 | 0.00% | 0.08 | AP-42, Ch 1.4, Table 1.4-2, 7/98 |
| SO2 | 0.6 | lb/MMCF | 0.01 | 0.00% | 0.01 | AP-42, Ch 1.4, Table 1.4-2, 7/98 |
| NOx | 100 | lb/MMCF | 1.06 | 0.00% | 1.06 | AP-42, Ch 1.4, Table 1.4-2, 7/98 |
| VOC | 5.5 | lb/MMCF | 0.06 | 0.00% | 0.06 | AP-42, Ch 1.4, Table 1.4-2, 7/98 |
| CO | 84 | lb/MMCF | 0.89 | 0.00% | 0.89 | AP-42, Ch 1.4, Table 1.4-2, 7/98 |
| Lead | 5.00E-04 | lb/MMCF | 5.29E-06 | 0.00% | 5.29E-06 | AP-42, Ch 1.4, Table 1.4-2, 7/98 |
| Benzene | 2.10E-03 | lb/MMCF | 2.22E-05 | 0.00% | 2.22E-05 | AP-42, Ch 1.4, Table 1.4-3, 7/98 |
| Dichlorobenzene | 1.20E-03 | lb/MMCF | 1.27E-05 | 0.00% | 1.27E-05 | AP-42, Ch 1.4, Table 1.4-3, 7/98 |
| Formaldehyde | 7.50E-02 | lb/MMCF | 7.94E-04 | 0.00% | 7.94E-04 | AP-42, Ch 1.4, Table 1.4-3, 7/98 |
| Hexane | 1.8 | lb/MMCF | 0.02 | 0.00% | 0.02 | AP-42, Ch 1.4, Table 1.4-3, 7/98 |
| Toluene | 3.40E-03 | lb/MMCF | 3.60E-05 | 0.00% | 3.60E-05 | AP-42, Ch 1.4, Table 1.4-3, 7/98 |
| Cadmium | 1.10E-03 | lb/MMCF | 1.16E-05 | 0.00% | 1.16E-05 | AP-42, Ch 1.4, Table 1.4-4, 7/98 |
| Chromium | 1.40E-03 | lb/MMCF | 1.48E-05 | 0.00% | 1.48E-05 | AP-42, Ch 1.4, Table 1.4-4, 7/98 |
| Manganese | 3.80E-04 | lb/MMCF | 4.02E-06 | 0.00% | 4.02E-06 | AP-42, Ch 1.4, Table 1.4-4, 7/98 |
| Nickel | 2.10E-03 | lb/MMCF | 2.22E-05 | 0.00% | 2.22E-05 | AP-42, Ch 1.4, Table 1.4-4, 7/98 |
| **Total HAP** | | | 0.02 | | 0.02 | Sum of Individual HAP |
| $CO_2$ | 53.02 | kg/MMBtu | 1,261 | 0.00% | 1,261 | 40 CFR 98, Subpart C, Table C-1 |
| $CH_4$ | 1.00E-03 | kg/MMBtu | 2.38E-02 | 0.00% | 2.38E-02 | 40 CFR 98, Subpart C, Table C-2 |
| $N_2O$ | 1.00E-04 | kg/MMBtu | 2.38E-03 | 0.00% | 2.38E-03 | 40 CFR 98, Subpart C, Table C-2 |
| **$CO_2e$** | | | 1,262 | | 1,262 | calculated from individual parts |

**Appendix A: Emission Calculations**
**Iron Room - Shot Blasting - Cutoff**

**Company Name:** The Ford Meter Box Company, Inc.
**Address City IN Zip:** 775 Manchester Avenue, Wabash, Indiana 46992
**Significant Source Modification No.:** 169-34171-00003
**Significant Permit Modification No.:** 169-34315-00003
**Reviewer:** Curtis Taylor

| Iron Room - Grinding / Finishing - Unit #5 | | | | | | Throughput | 0.780 | Individual Point of Use Fabric Filters |
|---|---|---|---|---|---|---|---|---|
| **Pollutant** | **Emission Factor (Ton Charged)** | **PTE (lb/hr)** | **PTE (TPY)** | **Control Efficiency** | **Controlled PTE (lb/hr)** | **Controlled PTE (TPY)** | **Limited PTE (TPY)** | **Emission Factor Source / Notes** |
| PM | 5.16 lb/ton | 4.025 | 17.63 | 99.00% | 0.04 | 0.18 | 15.19 | Based on Stack Test, Baghouse V |
| $PM_{10}$ | 1.70 lb/ton | 1.326 | 5.81 | 99.00% | 0.013 | 0.06 | 5.81 | SCC# 3-04-003-40 |
| $PM_{2.5}$ | 1.70 lb/ton | 1.326 | 5.81 | 99.00% | 0.013 | 0.06 | 5.81 | SCC# 3-04-003-40 |
| Lead | 0.02 lb/ton | 0.016 | 0.07 | 98.00% | 3.20E-04 | 1.40E-03 | 0.07 | Source Testing, Lead is 0.43% of PM |

| Shot Blasting - Unit 11 | | | | | | Throughput | 2.730 | Baghouse Q |
|---|---|---|---|---|---|---|---|---|
| **Pollutant** | **Emission Factor (Ton Charged)** | **PTE (lb/hr)** | **PTE (TPY)** | **Control Efficiency** | **Controlled PTE (lb/hr)** | **Controlled PTE (TPY)** | **Limited PTE (TPY)** | **Emission Factor Source / Notes** |
| PM | 17.0 lb/ton | 46.410 | 203.28 | 99.00% | 0.464 | 2.03 | 4.99 | SCC# 3-04-003-40 |
| $PM_{10}$ | 1.7 lb/ton | 4.641 | 20.33 | 99.00% | 0.046 | 0.20 | 4.99 | SCC# 3-04-003-40 |
| $PM_{2.5}$ | 1.7 lb/ton | 4.641 | 20.33 | 99.00% | 0.046 | 0.20 | 4.99 | SCC# 3-04-003-40 |
| Lead | 0.51 lb/ton | 1.392 | 6.10 | 98.00% | 0.02784 | 0.12 | 0.52 | Brass is 60% of PM, Lead 5% of Brass |

| Shot Blasting - Unit 12 | | | | | | Throughput | 1.370 | Baghouse S |
|---|---|---|---|---|---|---|---|---|
| **Pollutant** | **Emission Factor (Ton Charged)** | **PTE (lb/hr)** | **PTE (TPY)** | **Control Efficiency** | **Controlled PTE (lb/hr)** | **Controlled PTE (TPY)** | **Limited PTE (TPY)** | **Emission Factor Source / Notes** |
| PM | 17.0 lb/ton | 23.290 | 102.01 | 99.00% | 0.233 | 1.02 | 2.01 | SCC# 3-04-003-40 |
| $PM_{10}$ | 1.7 lb/ton | 2.329 | 10.20 | 99.00% | 0.023 | 0.10 | 2.01 | SCC# 3-04-003-40 |
| $PM_{2.5}$ | 1.7 lb/ton | 2.329 | 10.20 | 99.00% | 0.023 | 0.10 | 2.01 | SCC# 3-04-003-40 |
| Lead | 0.51 lb/ton | 0.699 | 3.06 | 98.00% | 0.01398 | 0.06 | 0.26 | Brass is 60% of PM, Lead 5% of Brass |

| Shot Blasting - Unit 14 | | | | | | Throughput | 8.195 | Baghouse S |
|---|---|---|---|---|---|---|---|---|
| **Pollutant** | **Emission Factor (Ton Charged)** | **PTE (lb/hr)** | **PTE (TPY)** | **Control Efficiency** | **Controlled PTE (lb/hr)** | **Controlled PTE (TPY)** | **Limited PTE (TPY)** | **Emission Factor Source / Notes** |
| PM | 17.0 lb/ton | 139.315 | 610.20 | 99.00% | 1.393 | 6.10 | 14.98 | SCC# 3-04-003-40 |
| $PM_{10}$ | 1.7 lb/ton | 13.932 | 61.02 | 99.00% | 0.139 | 0.61 | 14.98 | SCC# 3-04-003-40 |
| $PM_{2.5}$ | 1.7 lb/ton | 13.932 | 61.02 | 99.00% | 0.139 | 0.61 | 14.98 | SCC# 3-04-003-40 |
| Lead | 0.03 lb/ton | 0.246 | 1.08 | 98.00% | 0.0049 | 0.02 | 0.08 | Brass is 3% of PM, Lead 5% of Brass |

| Shot Blasting - Unit #29 | | | | | | Throughput | 2.000 | Baghouse |
|---|---|---|---|---|---|---|---|---|
| **Pollutant** | **Emission Factor (Ton Charged)** | **PTE (lb/hr)** | **PTE (TPY)** | **Control Efficiency** | **Controlled PTE (lb/hr)** | **Controlled PTE (TPY)** | **Limited PTE (TPY)** | **Emission Factor Source / Notes** |
| PM | 17.0 lb/ton | 34.000 | 148.92 | 99.00% | 0.34 | 1.49 | 4.99 | SCC# 3-04-003-40 |
| $PM_{10}$ | 1.7 lb/ton | 3.400 | 14.89 | 99.00% | 0.034 | 0.15 | 4.99 | SCC# 3-04-003-40 |
| $PM_{2.5}$ | 1.7 lb/ton | 3.400 | 14.89 | 99.00% | 0.034 | 0.15 | 4.99 | SCC# 3-04-003-40 |
| Lead | 0.04 lb/ton | 0.080 | 0.35 | 98.00% | 0.0016 | 0.01 | 0.10 | Source Analysis |

| Cutoff Operations - Unit #15 | | | | | | Throughput | 8.195 | Baghouse V |
|---|---|---|---|---|---|---|---|---|
| **Pollutant** | **Emission Factor (Ton Charged)** | **PTE (lb/hr)** | **PTE (TPY)** | **Control Efficiency** | **Controlled PTE (lb/hr)** | **Controlled PTE (TPY)** | **Limited PTE (TPY)** | **Emission Factor Source / Notes** |
| PM | 5.16 lb/ton | 42.286 | 185.21 | 99.00% | 0.423 | 1.85 | 14.98 | Stack Test, Baghouse V |
| $PM_{10}$ | 1.70 lb/ton | 13.932 | 61.02 | 99.00% | 0.139 | 0.61 | 14.98 | SCC# 3-04-003-40 |
| $PM_{2.5}$ | 1.70 lb/ton | 13.932 | 61.02 | 99.00% | 0.139 | 0.61 | 14.98 | SCC# 3-04-003-40 |
| Lead | 0.25 lb/ton | 2.049 | 8.97 | 98.00% | 0.04098 | 0.18 | 1.50 | Stack Test, Baghouse V |

| Cutoff Saw - Unit #30 | | | | | | Throughput | 2.000 | Baghouse |
|---|---|---|---|---|---|---|---|---|
| **Pollutant** | **Emission Factor (Ton Charged)** | **PTE (lb/hr)** | **PTE (TPY)** | **Control Efficiency** | **Controlled PTE (lb/hr)** | **Controlled PTE (TPY)** | **Limited PTE (TPY)** | **Emission Factor Source / Notes** |
| PM | 17.00 lb/ton | 34.000 | 148.92 | 99.00% | 0.34 | 1.49 | 4.99 | SCC# 3-04-003-40 |
| $PM_{10}$ | 1.70 lb/ton | 3.400 | 14.89 | 99.00% | 0.034 | 0.15 | 4.99 | SCC# 3-04-003-40 |
| $PM_{2.5}$ | 1.70 lb/ton | 3.400 | 14.89 | 99.00% | 0.034 | 0.15 | 4.99 | SCC# 3-04-003-40 |
| Lead | 0.04 lb/ton | 0.080 | 0.35 | 98.00% | 0.0016 | 0.01 | 0.10 | No-lead Brass < 0.25% lead |

**Notes:**

1) $PM_{2.5}$ is assumed to equal $PM_{10}$
2) Total emissions from the core making operation include metal handling, sand handling and combustion.

**Methodology:**

1) Emissions (lb/hr) = Throughput (ton/hr) x Emission Factor (lb/ton)
2) Emissions (TPY) = Emissions (lb/hr) x 8,760 hr/yr x 1 ton / 2,000 lb
3) Controlled Emissions (TPY) = Emissions (TPY) x (1- control efficiency)
4) Limited PTE (TPY) is based on permit limit or rule limit.

**Appendix A: Emission Calculations**
**Machining, Grinding and Finishing**

**Company Name:** The Ford Meter Box Company, Inc.
**Address City IN Zip:** 775 Manchester Avenue, Wabash, Indiana 46992
**Significant Source Modification No.:** 169-34171-00003
**Significant Permit Modification No.:** 169-34315-00003
**Reviewer:** Curtis Taylor

| Machining, Grinding, and Polishing - Unit #16 | | | | | | Throughput | 0.780 | Baghouse W |
|---|---|---|---|---|---|---|---|---|
| **Pollutant** | **Emission Factor (Ton Charged)** | **PTE (lb/hr)** | **PTE (TPY)** | **Control Efficiency** | **Controlled PTE (lb/hr)** | **Controlled PTE (TPY)** | **Limited PTE (TPY)** | **Emission Factor Source / Notes** |
| PM | 17 lb/ton | 13.260 | 58.08 | 99.00% | 0.133 | 0.58 | 2.98 | SCC# 3-04-003-40 |
| $PM_{10}$ | 1.7 lb/ton | 1.326 | 5.81 | 99.00% | 0.013 | 0.06 | 2.98 | SCC# 3-04-003-40 |
| $PM_{2.5}$ | 1.7 lb/ton | 1.326 | 5.81 | 99.00% | 0.013 | 0.06 | 2.98 | SCC# 3-04-003-40 |
| Lead | 0.84 lb/ton | 0.655 | 2.87 | 98.00% | 0.01310 | 0.06 | 0.25 | Source Testing, Lead is 0.43% of PM |

| Machining, Grinding, and Polishing - Unit #17 | | | | | | Throughput | 2.131 | Baghouse X, Filtermist |
|---|---|---|---|---|---|---|---|---|
| **Pollutant** | **Emission Factor (Ton Charged)** | **PTE (lb/hr)** | **PTE (TPY)** | **Control Efficiency** | **Controlled PTE (lb/hr)** | **Controlled PTE (TPY)** | **Limited PTE (TPY)** | **Emission Factor Source / Notes** |
| | | | | **Dry Processing** | | | | |
| PM | 0.147 lb/ton | 0.46 | 2.03 | 99.00% | 0.004 | 0.02 | NA | Source Production Data |
| $PM_{10}$ | 0.147 lb/ton | 0.46 | 2.03 | 99.00% | 0.004 | 0.02 | NA | Source Production Data |
| $PM_{2.5}$ | 0.147 lb/ton | 0.46 | 2.03 | 99.00% | 0.004 | 0.02 | NA | Source Production Data |
| Lead | 0.0073 lb/ton | 0.015 | 0.07 | 99.00% | 0.0002 | 0.001 | NA | Source Testing: Brass is 99% of PM, Lead is 5% of leaded brass |
| | | | | **Wet Processing** | | | | |
| PM | 0.127 lb/ton | 0.270 | 1.18 | 99.50% | 0.001 | 0.006 | NA | Outlet Loading, 18 mg/m3, 2,000 SCFM |
| $PM_{10}$ | 0.127 lb/ton | 0.270 | 1.18 | 99.50% | 0.001 | 0.006 | NA | Outlet Loading, 18 mg/m3, 2,000 SCFM |
| $PM_{2.5}$ | 0.127 lb/ton | 0.270 | 1.18 | 99.50% | 0.001 | 0.006 | NA | Outlet Loading, 18 mg/m3, 2,000 SCFM |
| Lead | 0.0001 lb/ton | 0.000 | 0.001 | 99.50% | 1.20E-06 | 5.26E-06 | NA | Source Testing: Brass is 99% of PM, Lead is 0.09% of no-lead brass |

| Machining, Grinding, and Polishing - Unit #18 | | | | | | Throughput | 0.900 | Baghouse Y |
|---|---|---|---|---|---|---|---|---|
| **Pollutant** | **Emission Factor (Ton Charged)** | **PTE (lb/hr)** | **PTE (TPY)** | **Control Efficiency** | **Controlled PTE (lb/hr)** | **Controlled PTE (TPY)** | **Limited PTE (TPY)** | **Emission Factor Source / Notes** |
| | | | | **Dry Processing** | | | | |
| PM | 17.0 lb/ton | 15.300 | 67.01 | 99.00% | 0.153 | 0.67 | 2.98 | SCC# 3-04-003-40 |
| $PM_{10}$ | 1.7 lb/ton | 1.530 | 6.70 | 99.00% | 0.015 | 0.07 | 2.98 | SCC# 3-04-003-40 |
| $PM_{2.5}$ | 1.7 lb/ton | 1.530 | 6.70 | 99.00% | 0.015 | 0.07 | 2.98 | SCC# 3-04-003-40 |
| Lead | 0.84 lb/ton | 0.756 | 3.31 | 98.00% | 0.01512 | 0.07 | 0.28 | Source Testing |

| Machining, Grinding, and Polishing - Unit #26 | | | | | | Throughput | 2.238 | Baghouse BC, Filtermist |
|---|---|---|---|---|---|---|---|---|
| **Pollutant** | **Emission Factor (Ton Charged)** | **PTE (lb/hr)** | **PTE (TPY)** | **Control Efficiency** | **Controlled PTE (lb/hr)** | **Controlled PTE (TPY)** | **Limited PTE (TPY)** | **Emission Factor Source / Notes** |
| | | | | **Dry Processing** | | | | |
| PM | 17.0 lb/ton | 38.046 | 166.64 | 99.00% | 0.38 | 1.67 | 9.99 | SCC# 3-04-003-40 |
| $PM_{10}$ | 1.7 lb/ton | 3.805 | 16.67 | 99.00% | 0.038 | 0.17 | 9.99 | SCC# 3-04-003-40 |
| $PM_{2.5}$ | 1.7 lb/ton | 3.805 | 16.67 | 99.00% | 0.038 | 0.17 | 9.99 | SCC# 3-04-003-40 |
| Lead | 0.84 lb/ton | 1.880 | 8.23 | 98.00% | 0.03760 | 0.16460 | 1.34 | Source Testing |
| | | | | **Wet Processing** | | | | |
| PM | 0.211 lb/ton | 0.472 | 2.07 | 99.00% | 0.005 | 0.02 | NA | Outlet Loading, 18 mg/m3, 3,500 SCFM |
| $PM_{10}$ | 0.211 lb/ton | 0.472 | 2.07 | 99.00% | 0.005 | 0.02 | NA | Outlet Loading, 18 mg/m3, 3,500 SCFM |
| $PM_{2.5}$ | 0.211 lb/ton | 0.472 | 2.07 | 99.00% | 0.005 | 0.02 | NA | Outlet Loading, 18 mg/m3, 3,500 SCFM |
| Lead | 0.000 lb/ton | 0.000 | 0.00 | 98.00% | 0.00 | 0.00 | NA | Source Testing |

**Notes:**

1) $PM_{2.5}$ is assumed to equal $PM_{10}$
2) Total emissions from the core making operation include metal handling, sand handling and combustion.
3) Emission Factors (PM, PM10, PM2.5, and Lead) for Unit #17 has been revised to Source Production Data. The emission factors were previously from SCC# 3-04-003-40.

**Methodology:**

1) Emissions (lb/hr) = Throughput (ton/hr) x Emission Factor (lb/ton)
2) Emissions (TPY) = Emissions (lb/hr) x 8,760 hr/yr x 1 ton / 2,000 lb
3) Controlled Emissions (TPY) = Emissions (TPY) x (1- control efficiency)
4) Limited PTE (TPY) is based on permit limit or rule limit.

**Appendix A: Emission Calculations**
**Saws and Machining**

**Company Name:** The Ford Meter Box Company, Inc.
**Address City IN Zip:** 775 Manchester Avenue, Wabash, Indiana 46992
**Significant Source Modification No.:** 169-34171-00003
**Significant Permit Modification No.:** 169-34315-00003
**Reviewer:** Curtis Taylor

| Cutoff Saw (SCF-06) | | | | | Unlimited Throughput | | 2.00 | Baghouse BH-U2 |
|---|---|---|---|---|---|---|---|---|
| Pollutant | Emission Factor | | PTE (lb/hr) | PTE (TPY) | Control Efficiency | Controlled PTE (lb/hr) | Controlled PTE (TPY) | Comments |
| PM | 1.30 | lb/ton | 2.61 | 11.42 | 96.07% | 0.2083 | 0.91 | See Notes 1 and 2 |
| $PM_{10}$ | 1.30 | lb/ton | 2.61 | 11.42 | 96.07% | 0.2083 | 0.91 | See Notes 1, 2, and 3 |
| $PM_{2.5}$ | 1.30 | lb/ton | 2.61 | 11.42 | 96.07% | 0.2083 | 0.91 | See Notes 1, 2, and 3 |
| Lead | 0.0178 | lb/ton | 0.04 | 0.16 | 96.07% | 0.00284 | 0.01 | See Notes 1 and 2 |

| Cutoff Saw (SCF-07) | | | | | Unlimited Throughput | | 2.00 | Baghouse BH-V |
|---|---|---|---|---|---|---|---|---|
| Pollutant | Emission Factor | | PTE (lb/hr) | PTE (TPY) | Control Efficiency | Controlled PTE (lb/hr) | Controlled PTE (TPY) | Comments |
| PM | 1.30 | lb/ton | 2.61 | 11.42 | 96.07% | 0.2083 | 0.91 | See Notes 1 and 2 |
| $PM_{10}$ | 1.30 | lb/ton | 2.61 | 11.42 | 96.07% | 0.2083 | 0.91 | See Notes 1, 2, and 3 |
| $PM_{2.5}$ | 1.30 | lb/ton | 2.61 | 11.42 | 96.07% | 0.2083 | 0.91 | See Notes 1, 2, and 3 |
| Lead | 0.0178 | lb/ton | 0.04 | 0.16 | 96.07% | 0.00284 | 0.01 | See Notes 1 and 2 |

| Machining and Grinding - Machining "819" | | | | | Throughput | | 0.125 | Baghouse 819 |
|---|---|---|---|---|---|---|---|---|
| Pollutant | Emission Factor | | PTE (lb/hr) | PTE (TPY) | Control Efficiency | Controlled PTE (lb/hr) | Controlled PTE (TPY) | Comments |
| | Dry Processing | | | | | | | |
| PM | 0.144 | lb/ton | 0.02 | 0.08 | 99.00% | 1.80E-04 | 7.88E-04 | Source Production Data for Baghouse X |
| $PM_{10}$ | 0.144 | lb/ton | 0.02 | 0.08 | 99.00% | 1.80E-04 | 7.88E-04 | Source Production Data for Baghouse X |
| $PM_{2.5}$ | 0.144 | lb/ton | 0.02 | 0.08 | 99.00% | 1.80E-04 | 7.88E-04 | Source Production Data for Baghouse X |
| Lead | 0.0071 | lb/ton | 0.001 | 0.00 | 99.00% | 8.91E-06 | 3.90E-05 | Source Testing: Brass is 99% of PM, Lead is 5% of leaded brass |

| Chip Wringer (CW-01) | | | | | Throughput | | 1.50 | Filtermist |
|---|---|---|---|---|---|---|---|---|
| Pollutant | Emission Factor | | PTE (lb/hr) | PTE (TPY) | Control Efficiency | Controlled PTE (lb/hr) | Controlled PTE (TPY) | Comments |
| | Wet Processing | | | | | | | |
| PM | 0.108 | lb/ton | 0.16 | 0.71 | 99.5% | 0.0008 | 0.004 | Outlet Loading, 0.18 mg/m3, 1200 SCFM, See Notes 5 and 6 |
| $PM_{10}$ | 0.108 | lb/ton | 0.16 | 0.71 | 99.5% | 0.0008 | 0.004 | Outlet Loading, 0.18 mg/m3, 1200 SCFM, See Notes 5 and 6 |
| $PM_{2.5}$ | 0.108 | lb/ton | 0.16 | 0.71 | 99.5% | 0.0008 | 0.004 | Outlet Loading, 0.18 mg/m3, 1200 SCFM, See Notes 5 and 6 |
| Lead | 2.67E-04 | lb/ton | 4.01E-04 | 1.75E-03 | 99.5% | 2.00E-06 | 8.77E-06 | Source Testing: Brass is 99% of PM, Lead is 0.25% of no-lead brass, See Note 4 |

**Notes:**

1) Controlled PTE (lb/hr) is from May 16, 2011 stack test results for Baghouse BH-V with a production of 5.080 tons of metal per hour.
   Control Efficiency is based on Baghouse BH-V collection data for 2011.
   Control Efficiency = 1 - Controlled Emissions / (Controlled Emissions + Collected Emissions) = 1 - 0.91/(0.91+22.25)
2) Emission Factor (lb/ton) = [Controlled PTE (lb/hr) ÷ 5.080 ton/hr] ÷ (1 - Control Efficiency) x 1.25 (safety factor)
3) PM2.5 and PM10 are assumed to equal PM.
4) Lead Emission Factor (lb/ton) = PM Emission Factor (lb/ton) * 0.99 * Lead Percent
   PTE (lb/hr) = Lead Emission Factor (lb/ton) * Throughput (ton/hr)
   Controlled PTE (lb/hr) = PTE (lb/hr) * (1 - Control Efficiency)
5) Controlled PTE (lb/hr) = 0.18 mg/m3 ÷ 35.31 ft3/m3 * 2.205E-06 lb/mg * Air Flow (cfm) * 60 min/hr
6) PTE (lb/hr) = Controlled PTE (lb/hr) ÷ (1 - Control Efficiency)

**Methodology:**

1) PTE (lb/hr) = Throughput (ton/hr) x Emission Factor (lb/ton)
2) PTE (TPY) = PTE (lb/hr) x 8,760 hr/yr ÷ 2,000 lb/ton
3) Controlled PTE (TPY) = Controlled PTE (lb/hr) x 8,760 hr/yr ÷ 2,000 lb/ton

**Appendix A: Emission Calculations**
**100 KW Natural Gas Fired Generator - 4 Stroke Lean Burn**

**Company Name:** **The Ford Meter Box Company, Inc.**
**Address City IN Zip:** **775 Manchester Avenue, Wabash, Indiana 46992**
**Significant Source Modification No.:** **169-34171-00003**
**Significant Permit Modification No.:** **169-34315-00003**
**Reviewer:** **Curtis Taylor**

**Design Data**

| | | | | | | |
|---|---|---|---|---|---|---|
| Heat Input Capacity | 1.15 | MMBtu/hr | | | | |
| HHV Natural Gas | 1,020 | MMBtu/MMcf | | | | |
| Unlimited Operating Hours | 500 | hr/yr | 575.00 | MMBtu/yr | 0.56 | MMcf/yr |
| Limited Operating Hours | 500 | hr/yr | 575.00 | MMBtu/yr | 0.56 | MMcf/yr |

| Pollutant[1] | Emission Factor | | PTE ( TPY ) | Limited PTE ( TPY ) |
|---|---|---|---|---|
| PM | 7.71E-05 | lb/MMBtu | 2.22E-05 | 2.22E-05 |
| $PM_{10}$ (filterable + condensible) | 9.91E-03 | lb/MMBtu | 2.85E-03 | 2.85E-03 |
| $PM_{2.5}$ (filterable + condensible) | 9.91E-03 | lb/MMBtu | 2.85E-03 | 2.85E-03 |
| $SO_2$ | 5.88E-04 | lb/MMBtu | 1.69E-04 | 1.69E-04 |
| $NO_x$ | 4.08 | lb/MMBtu | 1.17 | 1.17 |
| VOC | 1.18E-01 | lb/MMBtu | 0.03 | 0.03 |
| CO | 3.17E-01 | lb/MMBtu | 0.09 | 0.09 |
| Acetaldehyde | 8.36E-03 | lb/MMBtu | 2.40E-03 | 2.40E-03 |
| Acrolein | 5.14E-03 | lb/MMBtu | 1.48E-03 | 1.48E-03 |
| Benzene | 4.40E-04 | lb/MMBtu | 1.27E-04 | 1.27E-04 |
| Biphenyl | 2.12E-04 | lb/MMBtu | 6.10E-05 | 6.10E-05 |
| 1,3-Butadiene | 2.67E-04 | lb/MMBtu | 7.68E-05 | 7.68E-05 |
| Formaldehyde | 5.28E-02 | lb/MMBtu | 0.02 | 0.02 |
| Methanol | 2.50E-03 | lb/MMBtu | 7.19E-04 | 7.19E-04 |
| Hexane | 1.10E-03 | lb/MMBtu | 3.16E-04 | 3.16E-04 |
| Toluene | 4.08E-04 | lb/MMBtu | 1.17E-04 | 1.17E-04 |
| 2,2,4-Trimethylpentane | 2.50E-04 | lb/MMBtu | 7.19E-05 | 7.19E-05 |
| Xylene | 1.84E-04 | lb/MMBtu | 5.29E-05 | 5.29E-05 |
| Total HAP | | | 0.02 | 0.02 |

| Pollutant[2] | Emission Factor | | PTE ( TPY ) | Limited PTE ( TPY ) |
|---|---|---|---|---|
| $CO_2$ | 53.02 | kg/MMBtu | 34 | 34 |
| $CH_4$ | 1.00E-03 | kg/MMBtu | 6.34E-04 | 6.34E-04 |
| $N_2O$ | 1.00E-04 | kg/MMBtu | 6.34E-05 | 6.34E-05 |
| GHG as $CO_2e$ | | | 34 | 34 |

**Note:**
[1] AP-42, Table 3.2-2, July 2000, 4SLB
[2] 40 CFR 98, Table C-2, December 17, 2010

**Methodology:**
Annual Heat Input (MMBtu/yr) = Heat Input (MMBtu/hr) x Operating Hours (hr/yr)
Natural Gas Usage (MMCF/yr) = Heat Input (MMBtu/yr) x 1 / 1,020 MMBtu/MMCF
Limited PTE/PTE (TPY) = Annual Heat Input (MMBtu/yr) x Emission Factor (lb/MMBtu) x (1 ton / 2,000 lb)
Limited PTE/PTE (TPY) = Annual Heat Input (MMBtu/yr) x Emission Factor (kg/MMBtu) x 2.2046 lb/kg x (1 ton / 2,000 lb)
GHG as $CO_2e$ (TPY) = ($CO_2$ emissions) + ($CH_4$ emissions x 25) + ($N_2O$ emissions x 298)

**Appendix A: Emission Calculations**
**100 KW Natural Gas Fired Generator - 4 Stroke Lean Burn**

**Company Name:** **The Ford Meter Box Company, Inc.**
**Address City IN Zip:** **775 Manchester Avenue, Wabash, Indiana 46992**
**Significant Source Modification No.:** **169-34171-00003**
**Significant Permit Modification No.:** **169-34315-00003**
**Reviewer:** **Curtis Taylor**

**Design Data**

| | | | | | | |
|---|---|---|---|---|---|---|
| Engine Output | 846 | Hp | (423 HP, Each) | | | |
| Brake Specific Fuel Consumption | 7,000 | Btu/hp-hr | (AP-42, Ch 3.3, Table 3.3-1, Note c, 10/1996) | | | |
| Heat Input | 5.92 | MMBtu/hr | | | | |
| HHV Diesel | 140 | MMBtu/kgal | | | | |
| Unlimited Hours | 500 | hr/yr | 21.14 | kgal/yr | 2,960.00 | MMBtu/yr |
| Limited Hours | 500 | hr/yr | 21.14 | kgal/yr | 2,960.00 | MMBtu/yr |

| Pollutant | Emission Factor | | PTE ( TPY ) | Limited PTE ( TPY ) | Data Source |
|---|---|---|---|---|---|
| PM | 2.20E-03 | lb/hp-hr | 0.47 | 0.47 | Same as $PM_{10}$ |
| $PM_{10}$ (filterable + condensible) | 2.20E-03 | lb/hp-hr | 0.47 | 0.47 | AP-42, Ch 3.3, Table 3.3-1, 10/1996 |
| $PM_{2.5}$ (filterable + condensible) | 2.20E-03 | lb/hp-hr | 0.47 | 0.47 | Same as $PM_{10}$ |
| $SO_2$ | 2.05E-03 | lb/hp-hr | 0.43 | 0.43 | AP-42, Ch 3.3, Table 3.3-1, 10/1996 |
| $NO_x$ | 0.031 | lb/hp-hr | 6.56 | 6.56 | AP-42, Ch 3.3, Table 3.3-1, 10/1996 |
| VOC | 2.51E-03 | lb/hp-hr | 0.53 | 0.53 | AP-42, Ch 3.3, Table 3.3-1, 10/1996 (TOC) |
| CO | 6.68E-03 | lb/hp-hr | 1.41 | 1.41 | AP-42, Ch 3.3, Table 3.3-1, 10/1996 |
| Benzene | 9.33E-04 | lb/MMBtu | 1.38E-03 | 1.38E-03 | AP-42, Ch 3.3, Table 3.3-2, 10/1996 |
| Toluene | 4.09E-04 | lb/MMBtu | 6.05E-04 | 6.05E-04 | AP-42, Ch 3.3, Table 3.3-2, 10/1996 |
| Xylene | 2.85E-04 | lb/MMBtu | 4.22E-04 | 4.22E-04 | AP-42, Ch 3.3, Table 3.3-2, 10/1996 |
| 1,3-Butadiene | 3.91E-05 | lb/MMBtu | 5.79E-05 | 5.79E-05 | AP-42, Ch 3.3, Table 3.3-2, 10/1996 |
| Formaldehyde | 1.18E-03 | lb/MMBtu | 1.75E-03 | 1.75E-03 | AP-42, Ch 3.3, Table 3.3-2, 10/1996 |
| Acetaldehyde | 7.67E-04 | lb/MMBtu | 1.14E-03 | 1.14E-03 | AP-42, Ch 3.3, Table 3.3-2, 10/1996 |
| Acrolein | 9.25E-05 | lb/MMBtu | 1.37E-04 | 1.37E-04 | AP-42, Ch 3.3, Table 3.3-2, 10/1996 |
| Naphthalene | 8.48E-05 | lb/MMBtu | 1.26E-04 | 1.26E-04 | AP-42, Ch 3.3, Table 3.3-2, 10/1996 |
| Total HAP | | | 0.01 | 0.01 | Sum of Individual HAPs |
| $CO_2$ | 73.96 | kg/MMBtu | 241 | 241 | 40 CFR 98, Table C-1, December 17, 2010 |
| $CH_4$ | 3.00E-03 | kg/MMBtu | 0.01 | 0.01 | 40 CFR 98, Table C-2, December 17, 2010 |
| $N_2O$ | 6.00E-04 | kg/MMBtu | 0.00 | 0.00 | 40 CFR 98, Table C-2, December 17, 2010 |
| GHG as $CO_2e$ | | | 241 | 241 | See Methodology 5 Below |

**Methodology:**
Annual Heat Input (MMBtu/yr) = Heat Input (MMBtu/hr) x Operating Hours (hr/yr)
Natural Gas Usage (MMCF/yr) = Heat Input (MMBtu/yr) x 1 / 1,020 MMBtu/MMCF
Limited PTE/PTE (TPY) = Annual Heat Input (MMBtu/yr) x Emission Factor (lb/MMBtu) x (1 ton / 2,000 lb)
Limited PTE/PTE (TPY) = Annual Heat Input (MMBtu/yr) x Emission Factor (kg/MMBtu) x 2.2046 lb/kg x (1 ton / 2,000 lb)
GHG as $CO_2e$ (TPY) = ($CO_2$ emissions) + ($CH_4$ emissions x 21) + ($N_2O$ emissions x 310)

**Appendix A: Emission Calculations**
**100 KW Natural Gas Fired Generator - 4 Stroke Lean Burn**

**Company Name:** **The Ford Meter Box Company, Inc.**
**Address City IN Zip:** **775 Manchester Avenue, Wabash, Indiana 46992**
**Significant Source Modification No.:** **169-34171-00003**
**Significant Permit Modification No.:** **169-34315-00003**
**Reviewer:** **Curtis Taylor**

**Design Data**

| | | | | | | |
|---|---|---|---|---|---|---|
| Engine Output | 100 | Hp | | | | |
| Brake Specific Fuel Consumption | 7,000 | Btu/hp-hr | (AP-42, Ch 3.3, Table 3.3-1, Note c, 10/1996) | | | |
| Heat Input | 0.7 | MMBtu/hr | | | | |
| HHV Diesel | 140 | MMBtu/kgal | | | | |
| Unlimited Hours | 500 | hr/yr | 2.5 | kgal/yr | 350.00 | MMBtu/yr |
| Limited Hours | 500 | hr/yr | 2.5 | kgal/yr | 350.00 | MMBtu/yr |

| Pollutant | Emission Factor | | PTE ( TPY ) | Limited PTE ( TPY ) | Data Source |
|---|---|---|---|---|---|
| PM | 2.20E-03 | lb/hp-hr | 0.06 | 0.06 | Same as $PM_{10}$ |
| $PM_{10}$ (filterable + condensible) | 2.20E-03 | lb/hp-hr | 0.06 | 0.06 | AP-42, Ch 3.3, Table 3.3-1, 10/1996 |
| $PM_{2.5}$ (filterable + condensible) | 2.20E-03 | lb/hp-hr | 0.06 | 0.06 | Same as $PM_{10}$ |
| $SO_2$ | 2.05E-03 | lb/hp-hr | 0.05 | 0.05 | AP-42, Ch 3.3, Table 3.3-1, 10/1996 |
| $NO_x$ | 0.031 | lb/hp-hr | 0.78 | 0.78 | AP-42, Ch 3.3, Table 3.3-1, 10/1996 |
| VOC | 2.51E-03 | lb/hp-hr | 0.06 | 0.06 | AP-42, Ch 3.3, Table 3.3-1, 10/1996 (TOC) |
| CO | 6.68E-03 | lb/hp-hr | 0.17 | 0.17 | AP-42, Ch 3.3, Table 3.3-1, 10/1996 |
| Benzene | 9.33E-04 | lb/MMBtu | 1.63E-04 | 1.63E-04 | AP-42, Ch 3.3, Table 3.3-2, 10/1996 |
| Toluene | 4.09E-04 | lb/MMBtu | 7.16E-05 | 7.16E-05 | AP-42, Ch 3.3, Table 3.3-2, 10/1996 |
| Xylene | 2.85E-04 | lb/MMBtu | 4.99E-05 | 4.99E-05 | AP-42, Ch 3.3, Table 3.3-2, 10/1996 |
| 1,3-Butadiene | 3.91E-05 | lb/MMBtu | 6.84E-06 | 6.84E-06 | AP-42, Ch 3.3, Table 3.3-2, 10/1996 |
| Formaldehyde | 1.18E-03 | lb/MMBtu | 2.07E-04 | 2.07E-04 | AP-42, Ch 3.3, Table 3.3-2, 10/1996 |
| Acetaldehyde | 7.67E-04 | lb/MMBtu | 1.34E-04 | 1.34E-04 | AP-42, Ch 3.3, Table 3.3-2, 10/1996 |
| Acrolein | 9.25E-05 | lb/MMBtu | 1.62E-05 | 1.62E-05 | AP-42, Ch 3.3, Table 3.3-2, 10/1996 |
| Naphthalene | 8.48E-05 | lb/MMBtu | 1.48E-05 | 1.48E-05 | AP-42, Ch 3.3, Table 3.3-2, 10/1996 |
| Total HAP | | | 6.63E-04 | 6.63E-04 | Sum of Individual HAPs |
| $CO_2$ | 73.96 | kg/MMBtu | 29 | 29 | 40 CFR 98, Table C-1, December 17, 2010 |
| $CH_4$ | 3.00E-03 | kg/MMBtu | 1.16E-03 | 1.16E-03 | 40 CFR 98, Table C-2, December 17, 2010 |
| $N_2O$ | 6.00E-04 | kg/MMBtu | 2.31E-04 | 2.31E-04 | 40 CFR 98, Table C-2, December 17, 2010 |
| GHG as $CO_2e$ | | | 29 | 29 | See Methodology 5 Below |

**Methodology:**
Annual Heat Input (MMBtu/yr) = Heat Input (MMBtu/hr) x Operating Hours (hr/yr)
Natural Gas Usage (MMCF/yr) = Heat Input (MMBtu/yr) x 1 / 1,020 MMBtu/MMCF
Limited PTE/PTE (TPY) = Annual Heat Input (MMBtu/yr) x Emission Factor (lb/MMBtu) x (1 ton / 2,000 lb)
Limited PTE/PTE (TPY) = Annual Heat Input (MMBtu/yr) x Emission Factor (kg/MMBtu) x 2.2046 lb/kg x (1 ton / 2,000 lb)
GHG as $CO_2e$ (TPY) = ($CO_2$ emissions) + ($CH_4$ emissions x 21) + ($N_2O$ emissions x 310)

**Appendix A: Emission Calculations**
**Surface Coating Operations - PM and VOC**

**Company Name:** The Ford Meter Box Company, Inc.
**Address City IN Zip:** 775 Manchester Avenue, Wabash, Indiana 46992
**Significant Source Modification No.:** 169-34171-00003
**Significant Permit Modification No.:** 169-34315-00003
**Reviewer:** Curtis Taylor

**Binks Teflon Coating Spray Booth - Unit #21**

| Material | Density (Lb/Gal) | Weight % Volatile (H20 & 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Xylan 8460 | 9.2 | 71.50% | 24.6% | 46.9% | 27.1% | 18.44% | 0.00520 | 121.700 | 5.92 | 4.31 | 2.73 | 65.53 | 11.96 | 4.00 | 23.40 | 45% |
| | | | | | | | | | | | | **Control Efficiency** | **0.00%** | **90.00%** | | |
| | | | | | | | | | | | | **Controlled PTE** | **11.96** | **0.40** | | |
| | | | | | | | | | | | | **Limited PTE** | **11.96** | **0.40** | | |

**Nut Coating Operation - Unit #27**

| Material | Density (Lb/Gal) | Weight % Volatile (H20 & 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Emralon 8301-01 | 8.7 | 83.30% | 62.0% | 21.3% | 62.0% | 16.70% | 0.00016 | 1960.000 | 4.88 | 1.85 | 0.58 | 13.95 | 2.55 | 0.00 | 11.10 | 100% |
| | | | | | | | | | | | | **Control Efficiency** | **0.00%** | **0.00%** | | |
| | | | | | | | | | | | | **Controlled PTE** | **2.55** | **0.00** | | |
| | | | | | | | | | | | | **Limited PTE** | **2.55** | **0.00** | | |

**Misc. Painting and Gluing Operations**

| Potential VOC pounds per hour | Potential VOC pounds | Potential VOC tons per year | Particulate Potential (ton/yr) |
|---|---|---|---|
| 2.35 | 56.44 | 10.30 | 2.64 |
| | **Control Efficiency** | **0.00%** | **99.50%** |
| | **Controlled PTE** | **10.30** | **0.01** |
| | **Limited PTE** | **10.30** | **2.64** |

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

**Appendix A: Emission Calculations**
**Surface Coating Operations - HAPs**

**Company Name:** **The Ford Meter Box Company, Inc.**
**Address City IN Zip:** **775 Manchester Avenue, Wabash, Indiana 46992**
**Significant Source Modification No.:** **169-34171-00003**
**Significant Permit Modification No.:** **169-34315-00003**
**Reviewer:** **Curtis Taylor**

**Binks Teflon Coating Spray Booth - Unit #21**

| Material | Density (Lb/Gal) | Gallons of Material (gal/unit) | Maximum (unit/hour) | Weight % Cumene | Weight % Dimethylformamide | Weight % Ethylene Glycol | Weight % Xylene | Cumene Emissions (ton/yr) | Dimethylformamide Emissions (ton/yr) | Ethylene Glycol Emissions (ton/yr) | Benzene Emissions (ton/yr) | Total HAP Emissions (ton/yr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Xylan 8460 | 7.95 | 1.00 | 2.50 | 0.04% | 1.84% | 5.23% | 0.03% | 0.03 | 1.60 | 4.55 | 0.03 | 6.22 |

**Nut Coating Operation - Unit #27**

| Material | Density (Lb/Gal) | Gallons of Material (gal/unit) | Maximum (unit/hour) | Weight % Cumene | Weight % Dimethylformamide | Weight % Ethylene Glycol | Weight % Xylene | Cumene Emissions (ton/yr) | Dimethylformamide Emissions (ton/yr) | Ethylene Glycol Emissions (ton/yr) | Benzene Emissions (ton/yr) | Total HAP Emissions (ton/yr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Emralon 8301-01 | 9.38 | 1.00 | 2.50 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

**Misc. Painting and Gluing Activities**

| Material | Density (Lb/Gal) | Gallons of Material (gal/unit) | Maximum (unit/hour) | Toluene Emissions (ton/yr) | Total HAP Emissions (ton/yr) |
|---|---|---|---|---|---|
| Multiple | | | | 2.40 | 2.40 |

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

**Appendix A: Emission Calculations**
**Three Chip Dryers, each with a thermal oxidizer**

**Company Name:** The Ford Meter Box Company, Inc.
**Address City IN Zip:** 775 Manchester Avenue, Wabash, Indiana 46992
**Significant Source Modification No.:** 169-34171-00003
**Significant Permit Modification No.:** 169-34315-00003
**Reviewer:** Curtis Taylor

**Design Data - Natural Gas Combustion**

| | | | | | |
|---|---|---|---|---|---|
| Heat Input Capacity | 3.15 | MMBtu/hr | (Each dryer at 0.625 MMBtu/hr + Thermal Oxidizer at 0.425 MMBtu/hr = 1.05 MMBtu/hr total) | | |
| HHV Natural Gas | 1,020 | MMBtu/MMCF | | | |
| Unlimited Operating Hours | 8,760 | hr/yr | 27,594 | MMBtu/yr | 27.05 MMCF/yr |
| Limited Operating Hours | 8,760 | hr/yr | 27,594 | MMBtu/yr | 27.05 MMCF/yr |

| Pollutant | Emission Factor | | PTE ( TPY ) | Limited PTE ( TPY ) | Data Source |
|---|---|---|---|---|---|
| PM | 1.90 | lb/MMCF | 0.03 | 0.03 | AP-42, Ch 1.4, Table 1.4-2, 7/1998 |
| PM10 (filterable + condensible) | 7.60 | lb/MMCF | 0.10 | 0.10 | AP-42, Ch 1.4, Table 1.4-2, 7/1998 |
| PM2.5 (filterable + condensible) | 7.60 | lb/MMCF | 0.10 | 0.10 | AP-42, Ch 1.4, Table 1.4-2, 7/1998 |
| SO2 | 0.60 | lb/MMCF | 0.01 | 0.01 | AP-42, Ch 1.4, Table 1.4-2, 7/1998 |
| NOx | 100.00 | lb/MMCF | 1.35 | 1.35 | AP-42, Ch 1.4, Table 1.4-1, 7/1998 |
| VOC | 5.50 | lb/MMCF | 0.07 | 0.07 | AP-42, Ch 1.4, Table 1.4-2, 7/1998 |
| CO | 84.00 | lb/MMCF | 1.14 | 1.14 | AP-42, Ch 1.4, Table 1.4-1, 7/1998 |
| 2-Methylnaphthalene | 2.40E-05 | lb/MMCF | 3.25E-07 | 3.25E-07 | AP-42, Ch 1.4, Table 1.4-3, 7/1998 |
| Benzene | 2.10E-03 | lb/MMCF | 2.84E-05 | 2.84E-05 | AP-42, Ch 1.4, Table 1.4-3, 7/1998 |
| Dichlorobenzene | 1.20E-03 | lb/MMCF | 1.62E-05 | 1.62E-05 | AP-42, Ch 1.4, Table 1.4-3, 7/1998 |
| Fluoranthene | 3.00E-06 | lb/MMCF | 4.06E-08 | 4.06E-08 | AP-42, Ch 1.4, Table 1.4-3, 7/1998 |
| Fluorene | 2.80E-06 | lb/MMCF | 3.79E-08 | 3.79E-08 | AP-42, Ch 1.4, Table 1.4-3, 7/1998 |
| Formaldehyde | 7.50E-02 | lb/MMCF | 1.01E-03 | 1.01E-03 | AP-42, Ch 1.4, Table 1.4-3, 7/1998 |
| Hexane | 1.8 | lb/MMCF | 2.43E-02 | 2.43E-02 | AP-42, Ch 1.4, Table 1.4-3, 7/1998 |
| Naphthalene | 6.10E-04 | lb/MMCF | 8.25E-06 | 8.25E-06 | AP-42, Ch 1.4, Table 1.4-3, 7/1998 |
| Phenanathrene | 1.70E-05 | lb/MMCF | 2.30E-07 | 2.30E-07 | AP-42, Ch 1.4, Table 1.4-3, 7/1998 |
| Pyrene | 5.00E-06 | lb/MMCF | 6.76E-08 | 6.76E-08 | AP-42, Ch 1.4, Table 1.4-3, 7/1998 |
| Toluene | 3.40E-03 | lb/MMCF | 4.60E-05 | 4.60E-05 | AP-42, Ch 1.4, Table 1.4-3, 7/1998 |
| Total HAP | | | 0.03 | 0.03 | Sum of Individual HAPs |
| CO2 | 53.02 | kg/MMBtu | 1,613 | 1,613 | 40 CFR 98, Subpart C, Table C-1, 12/2010 |
| CH4 | 1.00E-03 | kg/MMBtu | 3.04E-02 | 3.04E-02 | 40 CFR 98, Subpart C, Table C-2, 12/2010 |
| N2O | 1.00E-04 | kg/MMBtu | 3.04E-03 | 3.04E-03 | 40 CFR 98, Subpart C, Table C-2, 12/2010 |
| GHG as CO2e | | | 1,615 | 1,615 | |

**Design Data - Coolant Emissions**

| | | | | | | |
|---|---|---|---|---|---|---|
| Coolant Usage | 2004.81 | gallons/year | or | 2.00 | kgal/yr | 280 MMBtu/yr |
| Limited Coolant Usage | 2004.81 | gallons/year | | 2.00 | kgal/yr | 280 MMBtu/yr |
| HHV of Coolant | 140.00 | MMBtu/kgal | | | | |

| Pollutant | Emission Factor | | PTE ( TPY ) | Limited PTE ( TPY ) | Data Source |
|---|---|---|---|---|---|
| PM | 598.56 | lb/kgal | 0.60 | 0.60 | Manufacturer Test Data |
| PM10 (filterable + condensible) | 598.56 | lb/kgal | 0.60 | 0.60 | Manufacturer Test Data |
| PM2.5 (filterable + condensible) | 598.56 | lb/kgal | 0.60 | 0.60 | Manufacturer Test Data |
| SO2 | 251.20 | lb/kgal | 0.25 | 0.25 | AP-42, Ch 1.3, Table 1.3-1, 5/2010, S=1.6, No. 6 |
| NOx | 55.00 | lb/kgal | 0.06 | 0.06 | AP-42, Ch 1.3, Table 1.3-1, 5/2010, No. 6 |
| VOC | 1.10 | lb/kgal | 1.10E-03 | 1.10E-03 | AP-42, Ch 1.3, Table 1.3-1, 5/2010, No. 6 |
| CO | 5.00 | lb/kgal | 5.00E-03 | 5.00E-03 | AP-42, Ch 1.3, Table 1.3-1, 5/2010, No. 6 |
| Total HAP | 0.0123 | lb/kgal | 1.23E-05 | 1.23E-05 | Manufacturer Test Data |
| CO2 | 75.10 | kg/MMBtu | 23 | 23 | 40 CFR 98, Subpart C, Table C-1, 12/2010 |
| CH4 | 3.00E-03 | kg/MMBtu | 9.26E-04 | 9.26E-04 | 40 CFR 98, Subpart C, Table C-2, 12/2010 |
| N2O | 6.00E-04 | kg/MMBtu | 1.85E-04 | 1.85E-04 | 40 CFR 98, Subpart C, Table C-2, 12/2010 |
| CO2e | | | 23 | 23 | Calculated |

| Pollutant | Combustion Emissions (TPY) | Coolant Emissions (TPY) | Total PTE (TPY) | Controlled PTE (TPY) | Limited PTE (TPY) |
|---|---|---|---|---|---|
| PM | 0.03 | 0.60 | 0.63 | 0.63 | 0.63 |
| PM10 (filterable + condensible) | 0.10 | 0.60 | 0.70 | 0.70 | 0.70 |
| PM2.5 (filterable + condensible) | 0.10 | 0.60 | 0.70 | 0.70 | 0.70 |
| SO2 | 0.01 | 0.25 | 0.26 | 0.26 | 0.26 |
| NOx | 1.35 | 0.06 | 1.41 | 1.41 | 1.41 |
| VOC | 0.07 | 1.10E-03 | 0.07 | 0.07 | 0.07 |
| CO | 1.14 | 5.00E-03 | 1.15 | 1.15 | 1.15 |
| Total HAP | 0.03 | 1.23E-05 | 0.03 | 0.03 | 0.03 |
| CO2e | 1,615 | 23 | 1,638 | 1,638 | 1,638 |

**Methodology:**

GHG as $CO_2$e (TPY) = ($CO_2$ emissions) + ($CH_4$ emissionsx 21) + ($N_2O$ emissions x 310)
Annual Heat Input (MMBtu/yr) = Heat Input (MMBtu/hr) x Operational Hours (hr/year)
Gas Usage (MMCF/yr) = Annual Heat Usage (MMBtu/yr) x 1 MMCF/1,020 MMBtu
PTE (TPY) = Annual Gas Usage (MMCF/yr) x Emission Factor (lb/MMCF) x 1 ton / 2,000 lb
PTE (TPY) = Annual Gas Usage (MMCF/yr) x Emission Factor (kb/MMBtu) x 2.2046 lb/kg x 1 ton / 2,000 lb
Diesel Usage (kgal/yr) = Usage (gal/yr) x 1 kgal / 1,000 gallon
Heat Input (MMBtu/yr) = Diesel Usage (kgal/yr) x HHV (MMBtu/kgal)
PTE (TPY) = Diesel Usage (kgal/yr) x Emission Factor (lb/kgal) x 1 ton / 2,000 lb
Coolant Particulate Emission Factor (lb/kgal) = 0.6 ton/yr x 2,000 lb/ton x 1 yr / 2.0 kgal
Coolant Usage (lb/yr) = 4,146 lb/batch x 1 batch/ 10 hr x 20% oil by weight x 0.368% loss x 8,760 hr/yr x Safety Factor (2) x 3 machines = 16,038 lb/yr
Coolant Usage (gallons/yr) = Coolant Usage (lb/yr) x 8 lb coolant / gallons coolant = 2,004.84 gal/yr
Particulate Test Result (lb/hr) = 0.023 lb/hr x 8,760 hr/yr x 1 ton / 2,000 lb x Safety Factor (2) x 3 machines = 0.6 TPY

**Appendix A: Emission Calculations**
**Boiler Unit #1 and #2**

**Company Name:** **The Ford Meter Box Company, Inc.**
**Address City IN Zip:** **775 Manchester Avenue, Wabash, Indiana 46992**
**Significant Source Modification No.:** **169-34171-00003**
**Significant Permit Modification No.:** **169-34315-00003**
**Reviewer:** **Curtis Taylor**

**Design Data - Natural Gas Combustion**

| | | | | | | |
|---|---|---|---|---|---|---|
| Heat Input Capacity | 14.65 | MMBtu/hr | (Two boilers at 7.325 MMBtu/hr) | | | |
| HHV Natural Gas | 1,020 | MMBtu/MMCF | | | | |
| Unlimited Operating Hours | 8,760 | hr/yr | 128,334 | MMBtu/yr | 125.82 | MMCF/yr |
| Limited Operating Hours | 8,760 | hr/yr | 128,334 | MMBtu/yr | 125.82 | MMCF/yr |

| Pollutant | Emission Factor | | PTE ( TPY ) | Limited PTE ( TPY ) | Data Source |
|---|---|---|---|---|---|
| PM | 1.90 | lb/MMCF | 0.12 | 0.12 | AP-42, Ch 1.4, Table 1.4-2, 7/1998 |
| $PM_{10}$ (filterable + condensible) | 7.60 | lb/MMCF | 0.48 | 0.48 | AP-42, Ch 1.4, Table 1.4-2, 7/1998 |
| $PM_{2.5}$ (filterable + condensible) | 7.60 | lb/MMCF | 0.48 | 0.48 | AP-42, Ch 1.4, Table 1.4-2, 7/1998 |
| $SO_2$ | 0.60 | lb/MMCF | 0.04 | 0.04 | AP-42, Ch 1.4, Table 1.4-2, 7/1998 |
| $NO_x$ | 100.00 | lb/MMCF | 6.29 | 6.29 | AP-42, Ch 1.4, Table 1.4-1, 7/1998 |
| VOC | 5.50 | lb/MMCF | 0.35 | 0.35 | AP-42, Ch 1.4, Table 1.4-2, 7/1998 |
| CO | 84.00 | lb/MMCF | 5.28 | 5.28 | AP-42, Ch 1.4, Table 1.4-1, 7/1998 |
| 2-Methylnaphthalene | 2.40E-05 | lb/MMCF | 1.51E-06 | 1.51E-06 | AP-42, Ch 1.4, Table 1.4-3, 7/1998 |
| Benzene | 2.10E-03 | lb/MMCF | 1.32E-04 | 1.32E-04 | AP-42, Ch 1.4, Table 1.4-3, 7/1998 |
| Dichlorobenzene | 1.20E-03 | lb/MMCF | 7.55E-05 | 7.55E-05 | AP-42, Ch 1.4, Table 1.4-3, 7/1998 |
| Fluoranthene | 3.00E-06 | lb/MMCF | 1.89E-07 | 1.89E-07 | AP-42, Ch 1.4, Table 1.4-3, 7/1998 |
| Fluorene | 2.80E-06 | lb/MMCF | 1.76E-07 | 1.76E-07 | AP-42, Ch 1.4, Table 1.4-3, 7/1998 |
| Formaldehyde | 7.50E-02 | lb/MMCF | 4.72E-03 | 4.72E-03 | AP-42, Ch 1.4, Table 1.4-3, 7/1998 |
| Hexane | 1.8 | lb/MMCF | 1.13E-01 | 1.13E-01 | AP-42, Ch 1.4, Table 1.4-3, 7/1998 |
| Naphthalene | 6.10E-04 | lb/MMCF | 3.84E-05 | 3.84E-05 | AP-42, Ch 1.4, Table 1.4-3, 7/1998 |
| Phenanathrene | 1.70E-05 | lb/MMCF | 1.07E-06 | 1.07E-06 | AP-42, Ch 1.4, Table 1.4-3, 7/1998 |
| Pyrene | 5.00E-06 | lb/MMCF | 3.15E-07 | 3.15E-07 | AP-42, Ch 1.4, Table 1.4-3, 7/1998 |
| Toluene | 3.40E-03 | lb/MMCF | 2.14E-04 | 2.14E-04 | AP-42, Ch 1.4, Table 1.4-3, 7/1998 |
| Total HAP | | | 0.12 | 0.12 | Sum of Individual HAPs |
| $CO_2$ | 53.02 | kg/MMBtu | 7,500 | 7,500 | 40 CFR 98, Subpart C, Table C-1, 12/2010 |
| $CH_4$ | 1.00E-03 | kg/MMBtu | 1.41E-01 | 1.41E-01 | 40 CFR 98, Subpart C, Table C-2, 12/2010 |
| $N_2O$ | 1.00E-04 | kg/MMBtu | 1.41E-02 | 1.41E-02 | 40 CFR 98, Subpart C, Table C-2, 12/2010 |
| GHG as $CO_2e$ | | | 7,507 | 7,507 | |

**Methodology:**

GHG as $CO_2e$ (TPY) = ($CO_2$ emissions) + ($CH_4$ emissionsx 21) + ($N_2O$ emissions x 310)
Annual Heat Input (MMBtu/yr) = Heat Input (MMBtu/hr) x Operational Hours (hr/year)
Gas Usage (MMCF/yr) = Annual Heat Usage (MMBtu/yr) x 1 MMCF/1,020 MMBtu
PTE (TPY) = Annual Gas Usage (MMCF/yr) x Emission Factor (lb/MMCF) x 1 ton / 2,000 lb
PTE (TPY) = Annual Gas Usage (MMCF/yr) x Emission Factor (kb/MMBtu) x 2.2046 lb/kg x 1 ton / 2,000 lb

**Appendix A: Emission Calculations**
**Misc. Propance (LPG) and Butane Combustion Sources**

**Company Name:** The Ford Meter Box Company, Inc.
**Address City IN Zip:** 775 Manchester Avenue, Wabash, Indiana 46992
**Significant Source Modification No.:** 169-34171-00003
**Significant Permit Modification No.:** 169-34315-00003
**Reviewer:** Curtis Taylor

**Design Data - Propane Combustion**

| | | | | |
|---|---|---|---|---|
| Heat Input Capacity | 6.0 | MMBtu/hr | | |
| Heating Value of Propane | 91,500 | Btu/gallon | | |
| Unlimited Usage | 574.43 | kgal/yr | 52,560.35 | MMBtu/yr |
| Limited Usage | 574.43 | kgal/yr | 52,560.35 | MMBtu/yr |
| Sulfur Content | 5.00 | $gr/Ft^3$ | (www.sbcapcd.org/eng/tech/sulfur01.htm) | |

| Pollutant | Emission Factor | | PTE ( TPY ) | Limited PTE ( TPY ) | Data Source |
|---|---|---|---|---|---|
| PM | 0.20 | lb/kgal | 0.06 | 0.06 | AP-42, Ch 1.5, Table 1.5-1, 7/08 |
| $PM_{10}$ (filt.+conden.) | 0.70 | lb/kgal | 0.20 | 0.20 | AP-42, Ch 1.5, Table 1.5-1, 7/08 |
| $PM_{2.5}$ (filt.+conden.) | 0.70 | lb/kgal | 0.20 | 0.20 | AP-42, Ch 1.5, Table 1.5-1, 7/08 |
| $SO_2$ | 0.50 | lb/kgal | 0.14 | 0.14 | AP-42, Ch 1.5, Table 1.5-1, 7/08 |
| $NO_x$ | 13.00 | lb/kgal | 3.73 | 3.73 | AP-42, Ch 1.5, Table 1.5-1, 7/08 |
| VOC (TOC=VOC) | 1.00 | lb/kgal | 0.29 | 0.29 | AP-42, Ch 1.5, Table 1.5-1, 7/08 |
| CO | 7.50 | lb/kgal | 2.15 | 2.15 | AP-42, Ch 1.5, Table 1.5-1, 7/08 |
| $CO_2$ | 61.46 | kg/MMBtu | 3,561 | 3,561 | 40 CFR 98, Subpart C, Table C-1 |
| $CH_4$ | 1.00E-03 | kg/MMBtu | 5.79E-02 | 5.79E-02 | 40 CFR 98, Subpart C, Table C-2 |
| $N_2O$ | 1.00E-04 | kg/MMBtu | 5.79E-03 | 5.79E-03 | 40 CFR 98, Subpart C, Table C-2 |
| GHG as $CO_2e$ | | | 3,564 | 3,564 | |

**Design Data - Butane Combustion**

| | | | | |
|---|---|---|---|---|
| Heat Input Capacity | 6.0 | MMBtu/hr | | |
| Heat Content of Butane | 102,000 | Btu/gallon | | |
| Unlimited Usage | 515.29 | kgal/yr | 52,559.58 | MMBtu/yr |
| Limited Usage | 515.29 | kgal/yr | 52,559.58 | MMBtu/yr |
| Sulfur Content | 5.00 | $gr/Ft^3$ | (assumed the same as propane) | |

| Pollutant | Emission Factor | | PTE ( TPY ) | Limited PTE ( TPY ) | Data Source |
|---|---|---|---|---|---|
| PM | 0.20 | lb/kgallon | 0.05 | 0.05 | AP-42, Ch 1.5, Table 1.5-1, 7/08 |
| $PM_{10}$ (filt.+conden.) | 0.80 | lb/kgallon | 0.21 | 0.21 | AP-42, Ch 1.5, Table 1.5-1, 7/08 |
| $PM_{2.5}$ (filt.+conden.) | 0.80 | lb/kgallon | 0.21 | 0.21 | AP-42, Ch 1.5, Table 1.5-1, 7/08 |
| $SO_2$ | 0.450 | lb/kgallon | 0.12 | 0.12 | AP-42, Ch 1.5, Table 1.5-1, 7/08 |
| $NO_x$ | 15.00 | lb/kgallon | 3.86 | 3.86 | AP-42, Ch 1.5, Table 1.5-1, 7/08 |
| VOC (TOC=VOC) | 1.10 | lb/kgallon | 0.28 | 0.28 | AP-42, Ch 1.5, Table 1.5-1, 7/08 |
| CO | 8.40 | lb/kgallon | 2.16 | 2.16 | AP-42, Ch 1.5, Table 1.5-1, 7/08 |
| $CO_2$ | 65.15 | kg/MMBtu | 3,775 | 3,775 | 40 CFR 98, Subpart C, Table C-1 |
| $CH_4$ | 1.00E-03 | kg/MMBtu | 5.79E-02 | 5.79E-02 | 40 CFR 98, Subpart C, Table C-2 |
| $N_2O$ | 1.00E-04 | kg/MMBtu | 5.79E-03 | 5.79E-03 | 40 CFR 98, Subpart C, Table C-2 |
| GHG as $CO_2e$ | | | 3,778 | 3,778 | |

| Pollutant | Propane Emissions (TPY) | | | Butane Emissions (TPY) | | | Worst Case Emissions (TPY) | | |
|---|---|---|---|---|---|---|---|---|---|
| | PTE | Controlled PTE | Limited (PTE) | PTE | Controlled PTE | Limited (PTE) | PTE | Controlled PTE | Limited (PTE) |
| PM | 0.06 | 0.06 | 0.06 | 0.05 | 0.05 | 0.05 | 0.06 | 0.06 | 0.06 |
| $PM_{10}$ (filt.+conden.) | 0.20 | 0.20 | 0.20 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 |
| $PM_{2.5}$ (filt.+conden.) | 0.20 | 0.20 | 0.20 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 |
| $SO_2$ | 0.144 | 0.144 | 1.44E-01 | 0.116 | 0.116 | 1.16E-01 | 0.14 | 0.14 | 0.14 |
| $NO_x$ | 3.73 | 3.73 | 3.73 | 3.86 | 3.86 | 3.86 | 3.86 | 3.86 | 3.86 |
| VOC | 0.29 | 0.29 | 0.29 | 0.28 | 0.28 | 0.28 | 0.29 | 0.29 | 0.29 |
| CO | 2.15 | 2.15 | 2.15 | 2.16 | 2.16 | 2.16 | 2.16 | 2.16 | 2.16 |
| $CO_2$ | 3,561 | 3,561 | 3,561 | 3,775 | 3,775 | 3,775 | 3,775 | 3,775 | 3,775 |
| $CH_4$ | 5.79E-02 | 5.79E-02 | 5.79E-02 | 5.79E-02 | 5.79E-02 | 5.79E-02 | 5.79E-02 | 5.79E-02 | 5.79E-02 |
| $N_2O$ | 5.79E-03 | 5.79E-03 | 5.79E-03 | 5.79E-03 | 5.79E-03 | 5.79E-03 | 5.79E-03 | 5.79E-03 | 5.79E-03 |
| GHG as $CO_2e$ | 3,564 | 3,564 | 3,564 | 3,778 | 3,778 | 3,778 | 3,778 | 3,778 | 3,778 |

**Methodology:**
GHG as $CO_2e$ (TPY) = ($CO_2$ emissions) + ($CH_4$ emissionsx 21) + ($N_2O$ emissions x 310)
Fuel Usage (kgal/yr) = [Heat Input (MMBtu/hr) x 1E06 Btu/MMBtu x 8,760 hr/yr] / [Heat Content (Btu/gallon) x 1,000 gal / kgal]
Heat Input (MMBtu/yr) = Heat Input Capacity (MMBtu/hr) x 8,760 hr/yr
PTE (TPY) = Fuel Usage (kgal/yr) x Emission Factor (lb/kgal) x 1 ton / 2,000 lb
PTE (TPY) = Heat Input (MMBtu/yr) x Emission Factor (kg/MMBtu) x 2.2046 lb/kg x 1 ton / 2,000 lb
**Notes:**
Limited PTE (TPY) is set by permit limits. If no limit exists, Limited PTE = PTE
Emission Units are uncontrolled. Controlled PTE = PTE
PTE for the unit = worst case emission of each fuel.

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

**Company Name:** The Ford Meter Box Company, Inc.
**Address City IN Zip:** 775 Manchester Avenue, Wabash, Indiana 46992
**Significant Source Modification No.:** 169-34171-00003
**Significant Permit Modification No.:** 169-34315-00003
**Reviewer:** Curtis Taylor

**Tool Grinding Operation (Unit #8)**

| Pollutant | Hours of Operation (hr/yr) | Hourly Emission Rate (lb/hr) | PTE (TPY) | Control Efficiency | Controlled PTE (TPY) | Limited PTE (TPY) |
|---|---|---|---|---|---|---|
| PM | 8,760 | 0.323 | 1.41 | 99.00% | 0.01 | 0.01 |
| $PM_{10}$ (filt.+conden.) | 8,760 | 0.097 | 0.42 | 99.00% | 4.20E-03 | 4.20E-03 |
| $PM_{2.5}$ (filt.+conden.) | 8,760 | 0.097 | 0.42 | 99.00% | 4.20E-03 | 4.20E-03 |
| Lead | 8,760 | 0.0032 | 0.01 | 98.00% | 2.00E-04 | 2.00E-04 |

**Notes:**
The source estimated the hourly emission rates from material collected in the baghouse. The source collected 1,308 lb of material in 4,080 hours. 1,308 pounds of material represents 99% of the material generated by the emission unit.
PM10 and PM2.5 make up 30% of all PM.
The source assumed 1% of PM consists of lead.
Limited PTE is set by permit condition.
**Methodology:**
PTE (TPY) = Hours of Operation (hr/yr) x Hourly Emission Rate (lb/hr) x 1 ton / 2,000 lb
Controlled PTE (TPY) = Uncontrolled PTE (TPY) x (1 - control efficiency)

**Powder Coating Booth**

| Pollutant | Hours of Operation (hr/yr) | Hourly Emission Rate (lb/hr) | Estimated Pre-Control Emissions (TPY) | Control Efficiency | PTE and Controlled PTE (TPY) | Limited PTE (TPY) |
|---|---|---|---|---|---|---|
| PM | 8,760 | 1.57 | 6.88 | 99.50% | 0.03 | 0.03 |
| $PM_{10}$ (filt.+conden.) | 8,760 | 1.57 | 6.88 | 99.50% | 0.03 | 0.03 |
| $PM_{2.5}$ (filt.+conden.) | 8,760 | 1.57 | 6.88 | 99.50% | 0.03 | 0.03 |

**Notes:**
The source estimated the uncontrolled hourly emission rate by measuring the material collected by the filter over time and the stated control efficiency.
The cartridge filter has been determined to be integral to the process.
The powder coating operation can process eighteen four pound units per hour, 72 lb/hr throughput
**Methodology:**
PTE (TPY) = Hours of Operation (hr/yr) x Hourly Emission Rate (lb/hr) x 1 ton / 2,000 lb
Controlled PTE (TPY) = Uncontrolled PTE (TPY) x (1 - control efficiency)

**Appendix A: Emission Calculations**
**Miscellaneous Natural Gas Combustion Only**

**Company Name:** **The Ford Meter Box Company, Inc.**
**Address City IN Zip:** **775 Manchester Avenue, Wabash, Indiana 46992**
**Significant Source Modification No.:** **169-34171-00003**
**Significant Permit Modification No.:** **169-34315-00003**
**Reviewer:** **Curtis Taylor**

| | Heat Input Capacity MMBtu/hr | Potential Throughput MMCF/yr |
|---|---|---|
| Twenty (20) Natural Gas Heaters | 1.4 | 12.5 |
| Furnace Ancillary Equipment - Natural Gas; furnace burner & three ladle heaters | 18.0 | 157.7 |
| Natural Gas Make-Up Air Unit (AMM-04) | 5.0 | 43.8 |
| Natural Gas Make-Up Air Unit (AMF-05) | 3.0 | 26.3 |
| Natural Gas Make-Up Air Unit (AMM-03) | 2.0 | 17.5 |
| **Total** | **29.43** | |

| | Pollutant | | | | | | |
|---|---|---|---|---|---|---|---|
| | PM* | PM10* | direct PM2.5* | SO2 | NOx | VOC | CO |
| Emission Factor in lb/MMCF | 1.9 | 7.6 | 7.6 | 0.6 | 100.0 **see below | 5.5 | 84.0 |
| **Potential Emission in tons/yr** | | | | | | | |
| Twenty (20) Natural Gas Heaters | 0.01 | 0.05 | 0.05 | 0.00 | 0.63 | 0.03 | 0.53 |
| Furnace Ancillary Equipment - Natural Gas | 0.15 | 0.60 | 0.60 | 0.05 | 7.88 | 0.43 | 6.62 |
| Natural Gas Make-Up Air Unit (AMM-04) | 0.04 | 0.17 | 0.17 | 0.01 | 2.19 | 0.12 | 1.84 |
| Natural Gas Make-Up Air Unit (AMF-05) | 0.02 | 0.10 | 0.10 | 0.01 | 1.31 | 0.07 | 1.10 |
| Natural Gas Make-Up Air Unit (AMM-03) | 0.02 | 0.07 | 0.07 | 0.01 | 0.88 | 0.05 | 0.74 |
| **Total** | **0.24** | **0.98** | **0.98** | **0.08** | **12.89** | **0.71** | **10.83** |

*PM emission factor is filterable PM only. PM10 emission factor is condensable and filterable PM10 combined.
PM2.5 emission factor is condensable and filterable PM2.5 combined.
**Emission Factors for NOx: Uncontrolled = 280 (pre-NSPS) or 190 (post-NSPS), Low NOx Burner = 140, Flue gas recirculation = 100 (See Table 1.4-1)

| | HAPs - Organics | | | | | | |
|---|---|---|---|---|---|---|---|
| | Benzene | Dichlorobenzene | Formaldehyde | Hexane | Toluene | | |
| Emission Factor in lb/MMcf | 2.1E-03 | 1.2E-03 | 7.5E-02 | 1.8E+00 | 3.4E-03 | | |
| **Potential Emission in tons/yr** | | | | | | **Worse Single** | |
| Twenty (20) Natural Gas Heaters | 1.32E-05 | 7.52E-06 | 4.70E-04 | 1.13E-02 | 2.13E-05 | 1.13E-02 | **Hexane** |
| Furnace Ancillary Equipment - Natural Gas | 1.66E-04 | 9.46E-05 | 5.91E-03 | 1.42E-01 | 2.68E-04 | 1.42E-01 | **Hexane** |
| Natural Gas Make-Up Air Unit (AMM-04) | 4.60E-05 | 2.63E-05 | 1.64E-03 | 3.94E-02 | 7.45E-05 | 3.94E-02 | **Hexane** |
| Natural Gas Make-Up Air Unit (AMF-05) | 2.76E-05 | 1.58E-05 | 9.86E-04 | 2.37E-02 | 4.47E-05 | 2.37E-02 | **Hexane** |
| Natural Gas Make-Up Air Unit (AMM-03) | 1.84E-05 | 1.05E-05 | 6.57E-04 | 1.58E-02 | 2.98E-05 | 1.58E-02 | **Hexane** |
| | | | | | **Total** | **2.32E-01** | |

| | HAPs - Metals | | | | | |
|---|---|---|---|---|---|---|
| | Lead | Cadmium | Chromium | Manganese | Nickel | |
| Emission Factor in lb/MMcf | 5.0E-04 | 1.1E-03 | 1.4E-03 | 3.8E-04 | 2.1E-03 | |
| **Potential Emission in tons/yr** | | | | | | **Sub-Total HAPs** |
| Twenty (20) Natural Gas Heaters | 3.13E-06 | 6.89E-06 | 8.77E-06 | 2.38E-06 | 1.32E-05 | 1.18E-02 |
| Furnace Ancillary Equipment - Natural Gas | 3.94E-05 | 8.67E-05 | 1.10E-04 | 3.00E-05 | 1.66E-04 | 1.49E-01 |
| Natural Gas Make-Up Air Unit (AMM-04) | 1.10E-05 | 2.41E-05 | 3.07E-05 | 8.32E-06 | 4.60E-05 | 4.13E-02 |
| Natural Gas Make-Up Air Unit (AMF-05) | 6.57E-06 | 1.45E-05 | 1.84E-05 | 4.99E-06 | 2.76E-05 | 2.48E-02 |
| Natural Gas Make-Up Air Unit (AMM-03) | 4.38E-06 | 9.64E-06 | 1.23E-05 | 3.33E-06 | 1.84E-05 | 1.65E-02 |
| | | | | | **Total** | **2.43E-01** |
| | | | | | **Total Lead** | **6.45E-05** |

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

| | Greenhouse Gas | | | |
|---|---|---|---|---|
| | CO2 | CH4 | N2O | |
| Emission Factor in lb/MMcf | 120,000 | 2.3 | 2.2 | |
| Potential Emission in tons/yr | 752 | 0.0 | 0.0 | |
| Summed Potential Emissions in tons/yr | | 752 | | |
| **CO2e Total in tons/yr based on 11/29/2013 federal GWPs** | | **756** | | Twenty (20) Natural Gas Heaters |
| Potential Emission in tons/yr | 9,461 | 0.2 | 0.2 | |
| Summed Potential Emissions in tons/yr | | 9,461 | | |
| **CO2e Total in tons/yr based on 11/29/2013 federal GWPs** | | **9,517** | | Furnace Ancillary Equipment - Natural Gas |
| Potential Emission in tons/yr | 2,628 | 0.1 | 0.0 | |
| Summed Potential Emissions in tons/yr | | 2,628 | | |
| **CO2e Total in tons/yr based on 11/29/2013 federal GWPs** | | **2,644** | | Natural Gas Make-Up Air Unit (AMM-04) |
| Potential Emission in tons/yr | 1,577 | 0.0 | 0.0 | |
| Summed Potential Emissions in tons/yr | | 1,577 | | |
| **CO2e Total in tons/yr based on 11/29/2013 federal GWPs** | | **1,586** | | Natural Gas Make-Up Air Unit (AMF-05) |
| Potential Emission in tons/yr | 1,051 | 0.0 | 0.0 | |
| Summed Potential Emissions in tons/yr | | 1,051 | | |
| **CO2e Total in tons/yr based on 11/29/2013 federal GWPs** | | **1,057** | | Natural Gas Make-Up Air Unit (AMM-03) |
| | | **15,560** | | **Total** |

**Methodology**
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-01-006-01, 1-01-006-04, (AP-42 Supplement D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
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) based on 11/29/2013 federal GWPs= 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**
**Insignificant Operations Controlled with Fabric Filter (2014)**

**Company Name:** The Ford Meter Box Company, Inc.
**Address City IN Zip:** 775 Manchester Avenue, Wabash, Indiana 46992
**Significant Source Modification No.:** 169-34171-00003
**Significant Permit Modification No.:** 169-34315-00003
**Reviewer:** Curtis Taylor

| Unit | Control Device | Air Flow | | Outlet Grain Loading | | Particulate Controlled (lb/hr) | Particulate Controlled (tpy) | Particulate Uncontrolled (lb/hr) | Particulate Uncontrolled (tpy) | Lead Controlled (tpy) | Lead Uncontrolled (tpy) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Plastic Pipe Saw (SPP-01) | Baghouse BH-01 | 1055 | cfm @ | 0.005 | gr/ascf = | 0.045 | 0.20 | 0.45 | 1.98 | 0 | 0 |
| Tool Room Machining Center (MC-03) | Demister FMM-01 | 1200 | cfm @ | 0.0001 | gr/ascf = | 0.001 | 0.004 | 0.16 | 0.71 | 1.77E-06 | 1.77E-05 |
| Pattern Shop Machining Center (MCF-01A) | Demister FMF-01 | 1200 | cfm @ | 0.0001 | gr/ascf = | 0.001 | 0.004 | 0.16 | 0.71 | 1.77E-06 | 1.77E-05 |
| Pattern Shop Machining Center (MCF-02) | Demister FMF-03 | 1200 | cfm @ | 0.0001 | gr/ascf = | 0.001 | 0.004 | 0.16 | 0.71 | 1.77E-06 | 1.77E-05 |
| Pattern Shop Machining Center (MCF-03) | Demister FMF-04 | 1200 | cfm @ | 0.0001 | gr/ascf = | 0.001 | 0.004 | 0.16 | 0.71 | 1.77E-06 | 1.77E-05 |
| Magnetic Separator (MS-03) | Baghouse BH-06 | --------- | | | | 0.01 | 0.05 | 0.11 | 0.47 | 9.33E-05 | 9.33E-04 |
| Inductor Rebuild Area | Baghouse BH-04 | --------- | | | | 0.01 | 0.02 | 0.05 | 0.24 | 4.73E-05 | 4.73E-04 |
| Portable Vacuum System (SW-03) | fabric filters | 240 | cfm @ | 0.01 | gr/ascf = | 0.02 | 0.09 | 0.21 | 0.90 | 1.80E-04 | 1.80E-03 |
| Central Vacuum System (SW-02) | fabric filters | 646 | cfm @ | 0.01 | gr/ascf = | 0.06 | 0.24 | 1.11 | 4.85 | 4.85E-04 | 0.01 |
| Central Vacuum System (SW-06) | fabric filters | 646 | cfm @ | 0.01 | gr/ascf = | 0.06 | 0.24 | 1.11 | 4.85 | 4.85E-04 | 0.01 |
| **TOTALS** | | | | | | | **0.86** | | **16.12** | **1.30E-03** | **0.02** |

**Notes:**
The demisters are rated with a 99.5% control efficiency.
The baghouses and SW-03 filters are assumed to have a 90% control efficiency.
The SW-02 and SW-06 filters are assumed to have a 95% control efficiency.
The lead content is 0.05% of PM emissions for the machining center operations.
The lead content is 0.2% of PM emissions for the remaining operations, unless noted as a lead-free process.
23 lb PM is collected from Baghouse BH-06 during 240 hours of operation.
28 lb PM is collected from Baghouse BH-04 during 576 hours of operation.

**Methodology:**
Particulate Uncontrolled (tpy) = Particulate Uncontrolled (lb/hr) * 8760 hr/yr / 2000 lb/ton
Particulate Controlled (tpy) = Particulate Controlled (lb/hr) * 8760 hr/yr / 2000 lb/ton
Lead Controlled (tpy) = Particulate Controlled (tpy) * Lead Percent
Lead Uncontrolled (tpy) = Lead Controlled (tpy) / (1 - Control Efficiency)

SPP-01, SW-03:
Particulate Controlled (lb/hr) = Air Flow (cfm) * Outlet Grain Loading (gr/ascf) * 60 min/hr / 7000 lb/gr
Particulate Uncontrolled (lb/hr) = Particulate Controlled (lb/hr) / (1 - 0.90)

MC-03, MCF-01A, MCF-02, MCF-03:
Outlet Grain Loading (gr/ascf) = 0.18 $mg/m^3$ / 35.31 $ft^3/m^3$ * 2.205E-06 lb/mg * 7000 gr/lb
Particulate Controlled (lb/hr) = Air Flow (cfm) * Outlet Grain Loading (gr/ascf) * 60 min/hr / 7000 lb/gr
Particulate Uncontrolled (lb/hr) = Particulate Controlled (lb/hr) / (1 - 0.995)

MS-03:
Particulate Uncontrolled (lb/hr) = (23 lb/240 hr) / 0.90
Particulate Controlled (lb/hr) = Particulate Uncontrolled (lb/hr) * (1 - 0.90)

Inductor Installation:
Particulate Uncontrolled (lb/hr) = (28 lb/576 hr) / 0.90
Particulate Controlled (lb/hr) = Particulate Uncontrolled (lb/hr) * (1 - 0.90)

SW-02, SW-06:
Particulate Controlled (lb/hr) = Air Flow (cfm) * Outlet Grain Loading (gr/ascf) * 60 min/hr / 7000 lb/gr
Particulate Uncontrolled (lb/hr) = Particulate Controlled (lb/hr) / (1 - 0.95)

**Appendix A: Emission Calculations**
**326 IAC 6-3-2 Emission Limit Calculations**

**Company Name:** The Ford Meter Box Company, Inc.
**Address City IN Zip:** 775 Manchester Avenue, Wabash, Indiana 46992
**Significant Source Modification No.:** 169-34171-00003
**Significant Permit Modification No.:** 169-34315-00003
**Reviewer:** Curtis Taylor

| Process Description | Process Weight Rate (ton/hr) | Process Weight Rate (lb/hr) | 326 IAC 6-3-2 Limit (lb/hr) | Limit Calculation Notes | Uncontrolled PM Emissions (lb/hr) | Controlled PM Emissions (lb/hr) | Capable of Compliance with 326 IAC 6-3-2 |
|---|---|---|---|---|---|---|---|
| Furnace Charging, Melting, and Pouring (Unit #23) | 8.195 | 16,390 | 16.8 | (b) | 46.70 | 0.54 | Yes, with control |
| Unit #6 | 67.100 | 134,200 | 47.4 | (c) | 239.90 | 2.40 | Yes, with control |
| Shakeout and Sand Handling- #1, #2, #3 Sintos (Unit #20) | 49.100 | 98,200 | 44.4 | (c) | 175.10 | 1.75 | Yes, with control |
| Sand Treat & Brass Reclaim Ops (Unit #13) | 15.000 | 30,000 | 25.2 | (b) | 54.00 | 0.54 | Yes, with control |
| Didion Rotary Metal Reclaimer | 2.000 | 4,000 | 6.52 | (b) | 6.40 | 0.06 | Yes |
| Sand Dryer (SD-01) | 4.000 | 8,000 | 10.38 | (b) | 8.00 | - | Yes |
| Core Room Ventilation (Unit #19) | 10.263 | 20,526 | 19.5 | (b) | 9.01 | 9.01 | Yes |
| Iron Room (Unit #5) | 0.780 | 1,560 | 3.47 | (b) | 4.03 | 0.04 | Yes, with control |
| Shotblasting (Unit #11) | 2.730 | 5,460 | 8.04 | (b) | 46.40 | 0.46 | Yes, with control |
| Shotblasting (Unit #12) | 1.370 | 2,740 | 5.06 | (b) | 23.30 | 0.23 | Yes, with control |
| Shotblasting (Unit #14) | 8.195 | 16,390 | 16.8 | (b) | 139.30 | 1.39 | Yes, with control |
| Shotblasting (Unit #29) | 2.000 | 4,000 | 6.52 | (b) | 34.00 | 0.34 | Yes, with control |
| Grinding and Cutoff (Unit #15) | 8.195 | 16,390 | 16.8 | (b) | 42.30 | 0.42 | Yes, with control |
| Cut Off Saw (Unit #30) | 2.000 | 4,000 | 6.52 | (b) | 34.00 | 0.34 | Yes, with control |
| Cut Off Saw (SCF-06) | 2.000 | 4,000 | 6.52 | (b) | 2.61 | 0.21 | Yes |
| Cut Off Saw (SCF-07) | 2.000 | 4,000 | 6.52 | (b) | 2.61 | 0.21 | Yes |
| Mach., Grind. & Polish (Unit #16) | 0.780 | 1,560 | 3.47 | (b) | 13.30 | 0.13 | Yes, with control |
| Mach., Grind. & Polish (Unit #18) | 0.900 | 1,800 | 3.82 | (b) | 15.30 | 0.15 | Yes, with control |
| Mach., Grind. & Polish (Unit #26) | 2.238 | 4,476 | 7.03 | (b) | 38.00 | 0.38 | Yes, with control |
| Central Vacuum System (SW-02) | 12.000 | 24,000 | 21.7 | (b) | 1.11 | 0.06 | Yes |
| Central Vacuum System (SW-06) | 12.000 | 24,000 | 21.7 | (b) | 1.11 | 0.06 | Yes |
| Powder Coating Booth | 0.037 | 74 | 0.45 | (b) | 1.57 | 0.01 | Yes, with control |

**Note:**
Unit #6 - #1 Handline and Harrison Sand Tanks and Shakeout and conveyor operations for #1 Handline, #1 Harrison, #2 Harrison, #4 Sinto Mold Line

**Emission Limit Calculation Notes:**
(a) When the process weight rate is less than 100 pounds per hour, the allowable rate of emission is 0.551 pound per hour.
(b) Emission limitations for process weight rates up to sixty thousdand pounds per hour shall be calculated with the following equation:

$E\ (lb/hr) = 4.10\ P^{0.67}$ ; Where: E = Rate of emission in pounds per hour
P = Process Weight Rate in tons per hour

(c) Emission limitations for process weight rates in excess of sixty thousand pounds per hour shall be calcuated with the following equation:

$E\ (lb/hr) = 55.0\ P^{0.11} - 40$; Where: E = Rate of emission in pounds per hour
P = Process Weight Rate in tons per hour

When the process weight rate exceeds two hundred tons per hour, the allow emission may exceed that calcuated with equation (c) above, provided the concentration of particulate in the discharge gases to the atmosphere is less than one-tenth pound per thousand pounds of gases.

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

**Michael R. Pence**
*Governor*

**Thomas W. Easterly**
*Commissioner*

**SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED**

TO: John Haney
Ford Meter Box Company, Inc.
775 Manchester Avenue
Wabash, IN 46992-1420

DATE: July 9, 2014

FROM: Matt Stuckey, Branch Chief
Permits Branch
Office of Air Quality

SUBJECT: Final Decision
Title V Significant Source Modification
169-34171-00003

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:
Christopher Shanks, Senior Vice President & General Manager
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*

July 9, 2014

TO: Wabash Carnegie Public Library

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

Subject: **Important Information for Display Regarding a Final Determination**

**Applicant Name: Ford Meter Box Company, Inc.**
**Permit Number: 169-34171-00003**

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 7/9/2014<br>Ford Meter Box Company, Inc. 169-34171-00003 FINAL | | | AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING |
| Name and address of Sender | ▶ | Indiana Department of Environmental Management<br>Office of Air Quality – Permits Branch<br>100 N. Senate<br>Indianapolis, IN 46204 | Type of Mail:<br>**CERTIFICATE OF MAILING ONLY** | |

| Line | Article Number | Name, Address, Street and Post Office Address | Postage | Handing Charges | Act. Value (If Registered) | Insured Value | Due Send if COD | R.R. Fee | S.D. Fee | S.H. Fee | Rest. Del. Fee<br>Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | John Haney Ford Meter Box Company, Inc. 775 Manchester Avenue Wabash IN 46992-0398 (Source CAATS) CONFIRMED DELIVERY | | | | | | | | | |
| 2 | | Christopher Shanks Senior Vice President & General Manager Ford Meter Box Company, Inc. 775 Manchester Avenue Wabash IN 46992-0398 *(RO CAATS)* | | | | | | | | | |
| 3 | | Wabash County Commissioners 1 West Hill Street Wabash IN 46992 *(Local Official)* | | | | | | | | | |
| 4 | | Wabash City Council and Mayors Office 202 South Wabash Street Wabash IN 46992 *(Local Official)* | | | | | | | | | |
| 5 | | Wabash County Health Department 89 W. Hill, Memorial Hall Wabash IN 46992-3184 *(Health Department)* | | | | | | | | | |
| 6 | | Ted Little Wabash County Council 1076 West 900 North North Manchester IN 46962 *(Affected Party)* | | | | | | | | | |
| 7 | | Wabash Carnegie Public Library 188 W Hill St Wabash IN 46992-3048 *(Library)* | | | | | | | | | |
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