



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

Carol S. Comer
Commissioner

To: Interested Parties

Date: August 16, 2016

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

Source Name: Marion Municipal Utilities

Permit Level: Registration

Permit Number: 053-37369-00078

Source Location: 1540 N Washington St Marion, IN 46952

Type of Action Taken: Revisions to permit requirements
Changes that are administrative in nature

Notice of Decision: Approval - Registration

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 37369.

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 4-21.5-3-4(d) this order is effective when it is served. When served by U.S. mail, the order is effective three (3) calendar days from the mailing of this notice pursuant to IC 4-21.5-3-2(e).

(continues on next page)

If you wish to challenge this decision, IC 4-21.5-3-7 requires 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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Robin Lockridge, Assistant Director of Operations
Marion Municipal Utilities
1540 North Washington Street
Marion, Indiana 46952

August 16, 2016

Re: 053-37369-00078
Administrative Amendment to
R053-33688-00078

Dear Robin Lockridge:

Marion Municipal Utilities was issued Registration No.: R053-33688-00078 on December 10, 2013 for a stationary public water and wastewater utilities located at 1540 North Washington Street, Marion, Indiana 46952. On July 5, 2016, the Office of Air Quality (OAQ) received an application from the source requesting to remove two (2) existing emission units and add two (2) new emission units.

Pursuant to 326 IAC 2-5.5-6(d)(2)(B), this change to the registration is considered an administrative amendment because the registration is amended to indicate changes in descriptive information concerning the source or emission units.

Pursuant to 326 IAC 2-5.5-6(d)(11), the addition of new emission units is considered an administrative amendment because the registration is amended to incorporate a modification that consists of emission units described under 326 IAC 2-1.1-3(e)(1) through 326 IAC 2-1.1-3(e)(31) (Exemptions).

The attached Technical Support Document (TSD) provides additional explanation of the changes to the permit.

The source shall continue to operate according to 326 IAC 2-5.5 (Registrations). All other conditions of the registration shall remain unchanged and in effect. Please find attached the entire registration as amended, including the following new attachment:

Attachment D: 40 CFR 60, Subpart JJJJ, Standards of Performance for Stationary Spark Ignition Internal Combustion Engines

The registration references the below listed attachments. Since these attachments have been provided in previously issued approvals for this source, IDEM OAQ has not included a copy of these attachments with this amendment:

Attachment A: 40 CFR 60, Subpart IIII, NSPS New Source Performance Standards (NSPS) for Stationary Compression Ignition Internal Combustion Engines

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

Attachment C: 40 CFR 63, Subpart CCCCCC, National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities

Previously issued approvals for this source containing these attachments are available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>.

Federal rules under Title 40 of United States Code of Federal Regulations may also be found on the U.S. Government Printing Office's Electronic Code of Federal Regulations (eCFR) website, located on the Internet at: http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title40/40tab_02.tpl.

A copy of the registration 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 Permit Guide on the Internet at: <http://www.in.gov/idem/5881.htm>; and the Citizens' Guide to IDEM on the Internet at: <http://www.in.gov/idem/6900.htm>.

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 Deborah Cole, at (800) 451-6027, ext. 4-5377, or (317) 234-5377.

Sincerely,



Iryn Calilung, Section Chief
Permits Branch
Office of Air Quality

IC/dac

Attachment: Revised Registration, Technical Support Document, Appendix A (Emissions Calculations) and Attachment D

cc: File - Grant County
Grant County Health Department
Compliance and Enforcement Branch



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REGISTRATION OFFICE OF AIR QUALITY

**Marion Municipal Utilities
1540 North Washington Street
Marion, Indiana 46952**

Pursuant to 326 IAC 2-5.1 (Construction of New Sources: Registrations) and 326 IAC 2-5.5 (Registrations), (herein known as the Registrant) is hereby authorized to construct and operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this registration.

Registration No.: R053-33688-00078	
Issued by: <i>Original Signed by:</i> Jenny Acker, Section Chief Permits Branch Office of Air Quality	Issuance Date: December 10, 2013

Administrative Amendment No.: 053-37369-00078	
Issued by:  Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: August 16, 2016

SECTION A

SOURCE SUMMARY

This registration 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 and A.2 is descriptive information and does not constitute enforceable conditions. However, the Registrant 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 Registrant to obtain additional permits pursuant to 326 IAC 2.

A.1 General Information

The Registrant owns and operates stationary public water and wastewater utilities.

Source Address:	1540 North Washington Street, Marion, IN 46952
General Source Phone Number:	(765) 664-2391
SIC Code:	4941 - Water Supply 4952 - Sewage Systems
County Location:	Grant County
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Registration

A.2 Emission Units and Pollution Control Equipment Summary

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

- (a) One (1) Drinking Water Emergency Generator, identified as EU-1, constructed in 2007, with a maximum capacity of 1207 hp and a displacement of 33.9 liters, powered by No. 2 diesel fuel, and part of the Emergency Demand Response Program.

Under 40 CFR 60, Subpart IIII, this unit is considered an affected source/facility.

Under 40 CFR 63, Subpart ZZZZ, this unit is considered an affected source/facility.
- (b) One (1) Wastewater Emergency Generator, identified as EU-2, constructed in 1984, with a maximum power output of 800 hp, powered by No. 2 diesel fuel, and part of the Emergency Demand Response Program.

Under 40 CFR 63, Subpart ZZZZ, this unit is considered an affected source/facility.
- (c) One (1) Building B Boiler, identified as EU-5, constructed in 1984, with a maximum heat input rate of 2.5 MMBtu/hr, fueled by digester gas and natural gas.
- (d) One (1) Building G Boiler, identified as EU-6, constructed in 1984, with a maximum heat input rate of 0.5 MMBtu/hr, fueled by natural gas.
- (e) Primary flare for digester gas from the four (4) digesters, identified as EU-7, constructed in 1960, with a burner capacity of 18,000 cf/hr, for digester gas only (no pilot). Gas is flared when more digester gas is produced than can be used or stored.
- (f) Backup flare for digester gas from the four (4) digesters, identified as EU-8, constructed in 1940, with a burner capacity of 18,000 cf/hr.
- (g) One (1) Gasoline dispensing tank (underground) and facility, identified as EU-9, constructed in 1984, with a volume of 10,000 gallons, dispensing approximately 15,000 gal/yr.

Under 40 CFR 63, Subpart CCCCCC, this unit is considered an affected source/facility.
- (h) One (1) Diesel dispensing tank (underground) and facility, identified EU-9, constructed in 1991, with a volume of 2,000 gallons, dispensing approximately 15,000 gal/yr.
- (i) One (1) lime unloading operation, identified as EU-10, with a capacity of approximately 33.3 tons/hr, unloading approximately 6500 tons/yr. Lime for the drinking water process is received in

enclosed tanker trucks and pneumatically unloaded to elevated storage bins. Dust collectors which vent indoors are attached to the storage bins.

- (j) One (1) digester gas/natural gas fired generator, identified as CHP Generator EU-11, approved in 2016 for construction, with a maximum power output of 322 hp, powered at 75% by the use of process gas from the anaerobic digestions of wastewater sludge and 25% the use of natural gas.

Under 40 CFR Part 60, Subpart JJJJ, this unit is considered an affected unit.

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

- (k) One (1) fuel oil fired emergency generator, identified as Wastewater Secondary Emergency Generator EU-12, approved in 2016 for construction, with a maximum power output of 546 hp, powered by No. 2 Distillate Fuel Oil.

Under 40 CFR Part 60, Subpart IIII, this unit is considered an affected unit.

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

SECTION B

GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-1.1-1]

Terms in this registration 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 2-1.1-1) shall prevail.

B.2 Effective Date of Registration [IC 13-15-5-3]

Pursuant to IC 13-15-5-3, this registration 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.

B.3 Registration Revocation [326 IAC 2-1.1-9]

Pursuant to 326 IAC 2-1.1-9 (Revocation), this registration to operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this registration.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this registration.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this registration shall not require revocation of this registration.
- (d) For any cause which establishes in the judgment of IDEM the fact that continuance of this registration is not consistent with purposes of this article.

B.4 Prior Permits Superseded [326 IAC 2-1.1-9.5]

- (a) All terms and conditions of permits established prior to Registration No. 053-33688-00078 and issued pursuant to permitting programs approved into the state implementation plan have been either:
 - (1) incorporated as originally stated,
 - (2) revised, or
 - (3) deleted.
- (b) All previous registrations and permits are superseded by this registration.

B.5 Annual Notification [326 IAC 2-5.1-2(f)(3)] [326 IAC 2-5.5-4(a)(3)]

Pursuant to 326 IAC 2-5.1-2(f)(3) and 326 IAC 2-5.5-4(a)(3):

- (a) An annual notification shall be submitted by an authorized individual to the Office of Air Quality stating whether or not the source is in operation and in compliance with the terms and conditions contained in this registration.
- (b) The annual notice shall be submitted in the format attached no later than March 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, IN 46204-2251
- (c) The notification 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.

B.6 Source Modification Requirement [326 IAC 2-5.5-6(a)]

Pursuant to 326 IAC 2-5.5-6(a), an application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

B.7 Registrations [326 IAC 2-5.1-2(i)]

Pursuant to 326 IAC 2-5.1-2(i), this registration does not limit the source's potential to emit.

B.8 Preventive Maintenance Plan [326 IAC 1-6-3]

- (a) If required by specific condition(s) in Section D of this registration, the Registrant shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this registration 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 Registrant's control, the PMPs cannot be prepared and maintained within the above time frame, the Registrant may extend the date an additional ninety (90) days provided the Registrant 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 Registrant shall implement the PMPs.

- (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 Registrant to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions.
- (c) To the extent the Registrant is required by 40 CFR Part 60 or 40 CFR Part 63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such OMM Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

SECTION C

SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-5.1-2(g)] [326 IAC 2-5.5-4(b)]

C.1 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 registration:

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

The Registrant 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).

Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)]

C.3 General Record Keeping Requirements [326 IAC 2-5.1-3(e)(2)]

- (a) Records of all required monitoring data, reports and support information required by this registration 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 Registrant, the Registrant shall furnish the records to the Commissioner within a reasonable time.
- (b) Unless otherwise specified in this registration, for all record keeping requirements not already legally required, the Registrant shall be allowed up to ninety (90) days from the date of registration issuance or the date of initial start-up, whichever is later, to begin such record keeping.

C.4 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-5.1-3(e)(2)] [IC 13-14-1-13]

- (a) Reports required by conditions in Section D of this registration 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

- (b) Unless otherwise specified in this registration, any notice, report, or other submission required by this registration 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 first report shall cover the period commencing on the date of issuance of this registration 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 registration. For the purpose of this registration, "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

SECTION D.1

OPERATION CONDITIONS

Facility Description [326 IAC 2-5.1-2(f)(2)] [326 IAC 2-5.5-4(a)(2)]:

- (e) One (1) Building B Boiler, identified as EU-5, constructed in 1984, with a maximum heat input rate of 2.5 MMBtu/hr, fueled by digester gas and natural gas.
- (f) One (1) Building G Boiler, identified as EU-6, constructed in 1984, with a maximum heat input rate of 0.5 MMBtu/hr, fueled by natural gas.

(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 2-5.1-2(f)(1)] [326 IAC 2-5.5-4(a)(1)]

D.1.1 Particulate [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), particulate emissions from each boiler shall be limited to 0.6 pounds per MMBtu heat input.

SECTION D.2

OPERATION CONDITIONS

Facility Description [326 IAC 2-5.1-2(f)(2)] [326 IAC 2-5.5-4(a)(2)]:

- (k) One (1) lime unloading operation, identified as EU-10, with a capacity of approximately 33.3 tons/hr, unloading approximately 6500 tons/yr. Lime for the drinking water process is received in enclosed tanker trucks and pneumatically unloaded to elevated storage bins. Dust collectors which vent indoors are attached to the storage bins.

(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 2-5.1-2(f)(1)] [326 IAC 2-5.5-4(a)(1)]

D.2.1 Particulate [326 IAC 6-3-2]

- (a) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), particulate emissions from the lime unloading operation shall not exceed 146.6 pounds per hour when operating at a maximum process weight of 33.3 tons per hour.

SECTION E.1

NSPS

Facility Description [326 IAC 2-5.1-2(f)(2)] [326 IAC 2-5.5-4(a)(2)]:

- (a) One (1) Drinking Water Emergency Generator, identified as EU-1, constructed in 2007, with a maximum capacity of 1207 hp and a displacement of 33.9 liters, powered by No. 2 diesel fuel, and part of the Emergency Demand Response Program.

Under 40 CFR 60, Subpart IIII, this unit is considered an affected source/facility.

Under 40 CFR 63, Subpart ZZZZ, this unit is considered an affected source/facility.

- (k) One (1) fuel oil fired emergency generator, identified as Wastewater Secondary Emergency Generator EU-12, approved in 2016 for construction, with a maximum power output of 546 hp, powered by No. 2 Distillate Fuel Oil.

Under 40 CFR 60, Subpart IIII, this unit is considered an affected source/facility.

Under 40 CFR 63, Subpart ZZZZ, this unit is considered an affected source/facility.

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

E.1.1 General Provisions Relating to New Source Performance Standards (NSPS) for Stationary Compression Ignition Internal Combustion Engines [40 CFR Part 60, Subpart A] [326 IAC 12-1]

Pursuant to 40 CFR 60.4218, the Registrant shall comply with the provisions of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12-1, for the emission units listed above, except as otherwise specified in 40 CFR Part 60, Subpart IIII.

E.1.2 New Source Performance Standards (NSPS) for Stationary Compression Ignition Internal Combustion Engines [40 CFR Part 60, Subpart IIII] [326 IAC 12-1]

Pursuant to CFR Part 60, Subpart IIII, the Registrant shall comply with the following provisions of 40 CFR Part 60, Subpart IIII (included as Attachment A of this Registration):

Drinking Water Emergency Generator - EU-1

- (a) 40 CFR 60.4200(a)(2)(i) and (c)
- (b) 40 CFR 60.4205(b)
- (c) 40 CFR 60.4206
- (d) 40 CFR 60.4207(a) and (b)
- (e) 40 CFR 60.4209
- (f) 40 CFR 60.4211(a), (c), (f), and (g)(3)
- (g) 40 CFR 60.4214(b) and (d)
- (h) 40 CFR 60.4218
- (i) 40 CFR 60.4219
- (j) Table 8

Wastewater Secondary Emergency Generator EU-12

- (a) 40 CFR 60.4200(a)(2)(i) and (c)
- (b) 40 CFR 60.4205(a)
- (c) 40 CFR 60.4206
- (d) 40 CFR 60.4207(a) and (b)
- (e) 40 CFR 60.4209
- (f) 40 CFR 60.4211(a), (b)(1), (f) and (g)
- (g) 40 CFR 60.4214(b)
- (h) 40 CFR 60.4218
- (i) 40 CFR 60.4219
- (j) Table 1
- (k) Table 8

SECTION E.2

NESHAP

Facility Description [326 IAC 2-5.1-2(f)(2)] [326 IAC 2-5.5-4(a)(2)]:

- (a) One (1) Drinking Water Emergency Generator, identified as EU-1, constructed in 2007, with a maximum capacity of 1207 hp and a displacement of 33.9 liters, powered by No. 2 diesel fuel, and part of the Emergency Demand Response Program.
- Under 40 CFR 60, Subpart IIII, this unit is considered an affected source/facility.
- Under 40 CFR 63, Subpart ZZZZ, this unit is considered an affected source/facility.
- (b) One (1) Wastewater Emergency Generator, identified as EU-2, constructed in 1984, with a maximum power output of 800 hp, powered by No. 2 diesel fuel, and part of the Emergency Demand Response Program.
- Under 40 CFR 63, Subpart ZZZZ, this unit is considered an affected source/facility.
- (j) One (1) digester gas/natural gas fired generator, identified as CHP Generator EU-11, approved in 2016 for construction, with a maximum power output of 322 hp, powered at 75% by the use of process gas from the anaerobic digestions of wastewater sludge and 25% the use of natural gas.
- Under 40 CFR Part 60, Subpart JJJJ, this unit is considered an affected unit.
- Under 40 CFR 63, Subpart ZZZZ, this unit is considered an affected source/facility.
- (k) One (1) fuel oil fired emergency generator, identified as Wastewater Secondary Emergency Generator EU-12, approved in 2016 for construction, with a maximum power output of 546 hp, powered by No. 2 Distillate Fuel Oil.
- Under 40 CFR 60, Subpart IIII, this unit is considered an affected source/facility.
- Under 40 CFR 63, Subpart ZZZZ, this unit is considered an affected source/facility.

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

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

- (a) Pursuant to 40 CFR 63.6665, the Registrant shall comply with the provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 20-1, for the emission units listed above, except as otherwise specified in 40 CFR 63, Subpart ZZZZ.

- (b) Pursuant to 40 CFR 63.10, the Registrant shall submit all required notifications and reports to:

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

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

E.2.2 Stationary Reciprocating Internal Combustion Engines NESHAP [40 CFR Part 63, Subpart ZZZZ]
[326 IAC 20-82]

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

Drinking Water Emergency Generator (EU-1) and Wastewater Emergency Generator (EU-2)

- (a) 40 CFR 63.6580
- (b) 40 CFR 63.6585
- (c) 40 CFR 63.6590(a)(1)(iii), (a)(1)(iv), (a)(2)(iii), and (c)(1),
- (d) 40 CFR 63.6595(a)(1), (a)(6), (b), and (c)
- (e) 40 CFR 63.6603(a)
- (f) 40 CFR 63.6605
- (g) 40 CFR 63.6625(e)(3), (e)(8), (f), (h), (i), and (j)
- (h) 40 CFR 63.6640(a), (b), (e), and (f)
- (i) 40 CFR 63.6645(a)(5)
- (j) 40 CFR 63.6650
- (k) 40 CFR 63.6655
- (l) 40 CFR 63.6660
- (m) 40 CFR 63.6665
- (n) 40 CFR 63.6670
- (o) 40 CFR 63.6675
- (p) Table 2d (items 4, 5, 10)
- (q) Table 6 (item 9)
- (r) Table 8

CHP Generator EU-11 and Wastewater Secondary Emergency Generator EU-12

- (a) 40 CFR 63.6580
- (b) 40 CFR 63.6585
- (c) 40 CFR 63.6590(a)(2)(iii) and (c)(1)
- (d) 40 CFR 63.6595(a)(6) and/or (a)(7)
- (e) 40 CFR 63.6665
- (f) 40 CFR 63.6670
- (g) 40 CFR 63.6675

SECTION E.3

NESHAP

Facility Description [326 IAC 2-5.1-2(f)(2)] [326 IAC 2-5.5-4(a)(2)]:

- (i) One (1) Gasoline dispensing tank (underground) and facility, identified as EU-9, constructed in 1984, with a volume of 10,000 gallons, dispensing approximately 15,000 gal/yr. Under 40 CFR 63, Subpart CCCCCC, this unit is considered an affected source/facility.

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

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

- (a) Pursuant to 40 CFR 63.11130, the Registrant shall comply with the provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 20-1, for the emission unit listed above, except as otherwise specified in 40 CFR 63, Subpart CCCCCC.

- (b) Pursuant to 40 CFR 63.10, the Registrant shall submit all required notifications and reports to:

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

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

E.3.2 Source Category: Gasoline Dispensing Facilities NESHAP [40 CFR Part 63, Subpart CCCCCC]

The Registrant shall comply with the following provisions of 40 CFR Part 63, Subpart CCCCCC (included as Attachment C of this registration), which are incorporated by reference as 326 IAC 20-82 for the emission unit listed above:

- (a) 40 CFR 63.11110
- (b) 40 CFR 63.11111(a), (b), (e), (f), (h), (i), (j), and (k)
- (c) 40 CFR 63.11112(a) and (d)
- (d) 40 CFR 63.11113
- (e) 40 CFR 63.11115
- (f) 40 CFR 63.11116
- (g) 40 CFR 63.11125(d)
- (h) 40 CFR 63.11130
- (i) 40 CFR 63.11131
- (j) 40 CFR 63.11132
- (k) Table 3

SECTION E.4

NSPS

Facility Description [326 IAC 2-5.1-2(f)(2)] [326 IAC 2-5.5-4(a)(2)]:

- (j) One (1) digester gas/natural gas fired generator, identified as CHP Generator EU-11, approved in 2016 for construction, with a maximum power output of 322 hp, powered at 75% by the use of process gas from the anaerobic digestions of wastewater sludge and 25% the use of natural gas.

Under 40 CFR Part 60, Subpart JJJJ, this unit is considered an affected unit.

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

(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 [326 IAC 2-5.5-4(a)]

E.4.1 General Provisions Relating to New Source Performance Standards (NSPS) for Stationary Spark Ignition Internal Combustion Engines [40 CFR Part 60, Subpart A] [326 IAC 12-1]

- (a) Pursuant to 40 CFR 60.4230, the Registrant shall comply with the provisions of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12-1, for the emission unit listed above, except as otherwise specified in 40 CFR Part 60, Subpart JJJJ.

- (b) Pursuant to 40 CFR 63.10, the Registrant shall submit all required notifications and reports to:

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

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

E.4.2 New Source Performance Standards (NSPS) for Stationary Spark Ignition Internal Combustion Engines [40 CFR Part 60, Subpart JJJJ] [326 IAC 12-1]

The Registrant shall comply with the following provisions of 40 CFR Part 60, Subpart JJJJ (included as Attachment D to this Registration), which are incorporated by reference as 326 IAC 12 for the emission unit listed above:

- (1) 40 CFR 60.4230(a)(4)(iii)(c)
- (2) 40 CFR 60.4233(e)
- (3) 40 CFR 60.4234
- (4) 40 CFR 60.4243(b)(2)(i),(e), and (g)
- (5) 40 CFR 60.4244 (a) through (f)
- (6) 40 CFR 60.4245(a)
- (7) 40 CFR 60.4246
- (8) 40 CFR 60.4248
- (9) Table 1
- (10) Table 3

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

**REGISTRATION
ANNUAL NOTIFICATION**

This form should be used to comply with the notification requirements under 326 IAC 2-5.1-2(f)(3) and 326 IAC 2-5.5-4(a)(3).

Company Name:	Marion Municipal Utilities
Address:	1540 North Washington Street
City:	Marion, Indiana 46952
Phone Number:	765-664-2391
Registration No.:	053-33688-00078

I hereby certify that Marion Municipal Utilities is:

- still in operation.
- no longer in operation.
- in compliance with the requirements of Registration No. 053-33688-00078.
- not in compliance with the requirements of Registration No. 053-33688-00078.

I hereby certify that Marion Municipal Utilities is:

Authorized Individual (typed):
Title:
Signature:
Phone Number:
Date:

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

Noncompliance:

Attachment D

Registration No: 053-33688-00078

[Downloaded from the eCFR on August 25, 2014]

Electronic Code of Federal Regulations

Title 40: Protection of Environment

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

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

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

What This Subpart Covers

§60.4230 Am I subject to this subpart?

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

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

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

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

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

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

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

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

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

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

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

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

- (ii) on or after January 1, 2008, for lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP;
 - (iii) on or after July 1, 2008, for engines with a maximum engine power less than 500 HP; or
 - (iv) on or after January 1, 2009, for emergency engines with a maximum engine power greater than 19 KW (25 HP).
- (5) Owners and operators of stationary SI ICE that are modified or reconstructed after June 12, 2006, and any person that modifies or reconstructs any stationary SI ICE after June 12, 2006.
- (6) The provisions of §60.4236 of this subpart are applicable to all owners and operators of stationary SI ICE that commence construction after June 12, 2006.
- (b) The provisions of this subpart are not applicable to stationary SI ICE being tested at an engine test cell/stand.
- (c) If you are an owner or operator of an area source subject to this subpart, you are exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart as applicable.
- (d) For the purposes of this subpart, stationary SI ICE using alcohol-based fuels are considered gasoline engines.
- (e) Stationary SI ICE may be eligible for exemption from the requirements of this subpart as described in 40 CFR part 1068, subpart C (or the exemptions described in 40 CFR parts 90 and 1048, for engines that would need to be certified to standards in those parts), except that owners and operators, as well as manufacturers, may be eligible to request an exemption for national security.
- (f) Owners and operators of facilities with internal combustion engines that are acting as temporary replacement units and that are located at a stationary source for less than 1 year and that have been properly certified as meeting the standards that would be applicable to such engine under the appropriate nonroad engine provisions, are not required to meet any other provisions under this subpart with regard to such engines.

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

Emission Standards for Manufacturers

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

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

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

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

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

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

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

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

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

(g) Notwithstanding the requirements in paragraphs (a) through (c) of this section, stationary SI internal combustion engine manufacturers are not required to certify reconstructed engines; however manufacturers may elect to do so. The reconstructed engine must be certified to the emission standards specified in paragraphs (a) through (e) of this

section that are applicable to the model year, maximum engine power and displacement of the reconstructed stationary SI ICE.

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

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

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

Emission Standards for Owners and Operators

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Other Requirements for Owners and Operators

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

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

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

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

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

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

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

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

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

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

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

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

Compliance Requirements for Manufacturers

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

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

[73 FR 59176, Oct. 8, 2008]

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

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

[73 FR 59176, Oct. 8, 2008]

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

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

[73 FR 59176, Oct. 8, 2008]

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Compliance Requirements for Owners and Operators

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(d) If you own or operate an emergency stationary ICE, you must operate the emergency stationary ICE according to the requirements in paragraphs (d)(1) through (3) of this section. In order for the engine to be considered an emergency stationary ICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (d)(1) through (3) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (d)(1) through (3) of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.

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

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

(i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.

(ii) Emergency stationary ICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see §60.17), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.

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

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

(i) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:

(A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator;

(B) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.

(C) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.

(D) The power is provided only to the facility itself or to support the local transmission and distribution system.

(E) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

(ii) [Reserved]

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

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

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

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

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

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

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

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

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

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

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

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

Testing Requirements for Owners and Operators

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

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

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

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

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

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

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

Where:

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

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

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

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

T = Time of test run, in hours.

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

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

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

Where:

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

C_d = Measured CO concentration in ppmv.

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

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

T = Time of test run, in hours.

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

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

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

Where:

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

C_d = VOC concentration measured as propane in ppmv.

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

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

T = Time of test run, in hours.

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

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

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

Where:

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

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

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

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

Where:

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

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

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

Where:

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

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 (CO₂).

Emergency stationary internal combustion engine means any stationary reciprocating internal combustion engine that meets all of the criteria in paragraphs (1) through (3) of this definition. All emergency stationary ICE must comply with the requirements specified in §60.4243(d) in order to be considered emergency stationary ICE. If the engine does not comply with the requirements specified in §60.4243(d), then it is not considered to be an emergency stationary ICE under this subpart.

(1) The stationary ICE is operated to provide electrical power or mechanical work during an emergency situation. Examples include stationary ICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary ICE used to pump water in the case of fire or flood, etc.

(2) The stationary ICE is operated under limited circumstances for situations not included in paragraph (1) of this definition, as specified in §60.4243(d).

(3) The stationary ICE operates as part of a financial arrangement with another entity in situations not included in paragraph (1) of this definition only as allowed in §60.4243(d)(2)(ii) or (iii) and §60.4243(d)(3)(i).

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

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

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

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

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

Landfill gas means a gaseous by-product of the land application of municipal refuse typically formed through the anaerobic decomposition of waste materials and composed principally of methane and CO₂.

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

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

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

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

Model year means the calendar year in which an engine is manufactured (see "date of manufacture"), except as follows:

(1) Model year means the annual new model production period of the engine manufacturer in which an engine is manufactured (see "date of manufacture"), if the annual new model production period is different than the calendar year and includes January 1 of the calendar year for which the model year is named. It may not begin before January 2 of the previous calendar year and it must end by December 31 of the named calendar year.

(2) For an engine that is converted to a stationary engine after being placed into service as a nonroad or other non-stationary engine, model year means the calendar year or new model production period in which the engine was manufactured (see "date of manufacture").

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

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

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

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

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

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

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

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

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

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

Subpart means 40 CFR part 60, subpart J J J J.

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

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

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

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

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

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

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

^bOwners 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.

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

^dFor 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

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

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/location of traverse points at the exhaust of the stationary internal combustion engine;	(1) Method 1 or 1A of 40 CFR part 60, appendix A-1, if measuring flow rate.	(a) Alternatively, for NO _x , O ₂ , and moisture measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts >6 and ≤12 inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line ('3-point long line'). If the duct is >12 inches in diameter and the sampling port location meets the two and half-diameter criterion of Section 11.1.1 of Method 1 of 40 CFR part 60, Appendix A, the duct may be sampled at '3-point long line'; otherwise, conduct the stratification testing and select sampling points according to Section 8.1.2 of Method 7E of 40 CFR part 60, Appendix A.
		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-2 or ASTM Method D6522-00 (Reapproved 2005) ^{ae} .	(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 2C of 40 CFR part 60, appendix A-1 or Method 19 of 40 CFR part 60, appendix A-7.	
		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-3, Method 320 of 40 CFR part 63, appendix A, or ASTM Method D 6348-03 ^e .	(c) Measurements to determine moisture must be made at the same time as the measurement for NO _x concentration.

For each	Complying with the requirement to	You must	Using	According to the following requirements
		v. Measure NO _x at the exhaust of the stationary internal combustion engine; if using a control device, the sampling site must be located at the outlet of the control device.	(5) Method 7E of 40 CFR part 60, appendix A-4, ASTM Method D6522-00 (Reapproved 2005) ^{ae} , Method 320 of 40 CFR part 63, appendix A, or ASTM Method 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/location of traverse points at the exhaust of the stationary internal combustion engine;	(1) Method 1 or 1A of 40 CFR part 60, appendix A-1, if measuring flow rate.	(a) Alternatively, for CO, O ₂ , and moisture measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts >6 and ≤12 inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line ('3-point long line'). If the duct is >12 inches in diameter <i>and</i> the sampling port location meets the two and half-diameter criterion of Section 11.1.1 of Method 1 of 40 CFR part 60, Appendix A, the duct may be sampled at '3-point long line'; otherwise, conduct the stratification testing and select sampling points according to Section 8.1.2 of Method 7E of 40 CFR part 60, Appendix A.
		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-2 or ASTM Method D6522-00 (Reapproved 2005) ^{ae} .	(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 2C of 40 CFR part 60, appendix A-1 or Method 19 of 40 CFR part 60, appendix A-7.	
		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-3, Method 320 of 40 CFR part 63, appendix A, or ASTM Method D 6348-03 ^e .	(c) Measurements to determine moisture must be made at the same time as the measurement for CO concentration.

For each	Complying with the requirement to	You must	Using	According to the following requirements
		v. Measure CO at the exhaust of the stationary internal combustion engine; if using a control device, the sampling site must be located at the outlet of the control device.	(5) Method 10 of 40 CFR part 60, appendix A4, ASTM Method D6522-00 (Reapproved 2005) ^{ae} , Method 320 of 40 CFR part 63, appendix A, or ASTM Method D 6348-03 ^e .	(d) Results of this test consist of the average of the three 1-hour or longer runs.
	c. limit the concentration of VOC in the stationary SI internal combustion engine exhaust	i. Select the sampling port location and the number/location of traverse points at the exhaust of the stationary internal combustion engine;	(1) Method 1 or 1A of 40 CFR part 60, appendix A-1, if measuring flow rate.	(a) Alternatively, for VOC, O ₂ , and moisture measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts >6 and ≤12 inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line ('3-point long line'). If the duct is >12 inches in diameter and the sampling port location meets the two and half-diameter criterion of Section 11.1.1 of Method 1 of 40 CFR part 60, Appendix A, the duct may be sampled at '3-point long line'; otherwise, conduct the stratification testing and select sampling points according to Section 8.1.2 of Method 7E of 40 CFR part 60, Appendix A.
		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-2 or ASTM Method D6522-00 (Reapproved 2005) ^{ae} .	(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 2C of 40 CFR part 60, appendix A-1 or Method 19 of 40 CFR part 60, appendix A-7.	
		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-3, Method 320 of 40 CFR part 63, appendix A, or ASTM Method D 6348-03 ^e .	(c) Measurements to determine moisture must be made at the same time as the measurement for VOC concentration.

For each	Complying with the requirement to	You must	Using	According to the following requirements
		v. Measure VOC at the exhaust of the stationary internal combustion engine; if using a control device, the sampling site must be located at the outlet of the control device.	(5) Methods 25A and 18 of 40 CFR part 60, appendices A-6 and A-7, 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-6 ^{cd} , Method 320 of 40 CFR part 63, appendix A, or ASTM Method D 6348-03 ^e .	(d) Results of this test consist of the average of the three 1-hour or longer runs.

^aAlso, you may petition the Administrator for approval to use alternative methods for portable analyzer.

^bYou may use ASME PTC 19.10-1981, Flue and Exhaust Gas Analyses, for measuring the O₂ content of the exhaust gas as an alternative to EPA Method 3B. AMSE PTC 19.10-1981 incorporated by reference, see 40 CFR 60.17

^cYou may use EPA Method 18 of 40 CFR part 60, appendix A-6, provided that you conduct an adequate pre-survey 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>).

^dYou 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. ASTM D6420-99(2004) incorporated by reference; see 40 CFR 60.17.

^eIncorporated by reference; see 40 CFR 60.17.

[79 FR 11251, Feb. 27, 2014]

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	

General provisions citation	Subject of citation	Applies to subpart	Explanation
§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	

Mobile source provisions citation	Subject of citation	Applies to subpart	Explanation
1048 subpart H	Reserved		
1048 subpart I	Definitions and Other Reference Information	Yes	
1048 appendix I and II	Yes		
1065 (all subparts)	Engine Testing Procedures	Yes	Except for the specific section below.
1065.715	Test Fuel Specifications for Natural Gas	No	
1068 (all subparts)	General Compliance Provisions for Nonroad Programs	Yes	Except for the specific sections below.
1068.245	Hardship Provisions for Unusual Circumstances	No	
1068.250	Hardship Provisions for Small-Volume Manufacturers	No	
1068.255	Hardship Provisions for Equipment Manufacturers and Secondary Engine Manufacturers	No	

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

Technical Support Document (TSD) for an Administrative Amendment

Source Description and Location
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Source Name:	Marion Municipal Utilities
Source Location:	1540 North Washington Street, Marion, IN 46952
County:	Grant
SIC Code:	4941- Water Supply 4952 - Sewage Systems
Registration No.:	R053-33688-00078
Registration Issuance Date:	December 10, 2013
Registration Administrative Amendment No.:	053-37369-00078
Permit Reviewer:	Deborah Cole

On July 5, 2016 the Office of Air Quality (OAQ) received an application from Marion Municipal Utilities related to a modification to an existing drinking water treatment plant and a wastewater treatment plant.

Source Definition

This source consists of three well-sites, three storage tanks, one water treatment plant, twenty lift stations and one waste water treatment plant under the address 1540 North Washington Street, Marion, Indiana 46952.

The three well-sites, three storage tanks, one water treatment plant, twenty lift stations and one waste water treatment plant are located on adjacent properties, share the same SIC codes and under common control. Therefore, they will be considered one (1) source as defined by 326 IAC 2-7-1(22).

This source determination was originally made in Registration No.: 053-37369-00078, issued on December 10, 2013.

Existing Approvals

The source was issued Registration No.: 053-37369-00078 on December 10, 2013. The source has not received any additional approvals.

County Attainment Status

The source is located in Grant 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.

¹Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked

- (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. Grant 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}**
Grant County has been classified as attainment for PM_{2.5}. Therefore, direct PM_{2.5}, SO₂, and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (c) **Other Criteria Pollutants**
Grant County has been classified as attainment or unclassifiable in Indiana for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

The fugitive emissions of criteria pollutants, hazardous air pollutants, and greenhouse gases are counted toward the determination of 326 IAC 2-5.1-2 (Registrations) applicability.

Status of the Existing Source

The table below summarizes the potential to emit of the entire source, prior to the proposed Administrative Amendment after consideration of all enforceable limits established in the effective permits.

This table was taken from Registration No.: 053-33688-00078, issued on December 10, 2013.

Process/ Emission Unit	Potential To Emit of the Entire Source Prior to the Administrative Amendment (tons/year)									
	PM	PM10*	PM2.5*	SO ₂	NO _x	VOC	CO	GHGs as CO ₂ e**	Total HAPs	Worst Single HAP
EU-1: DW Diesel Generator	0.21	0.12	0.12	0.00	7.24	0.21	1.66	351	3.32E-03	1.64E-03
EU-2: WW Diesel Generator	0.14	0.08	0.08	0.00	4.80	0.14	1.10	233	2.20E-03	1.09E-03
EU-3: Highest CP Blower Engine	0.02	0.02	0.02	0.00	0.42	0.01	0.70	26	6.05E-03	3.86E-03
EU-4: Worst Raw Sewage Pump	0.20	0.20	0.20	0.02	5.55	0.07	9.34	344	8.06E-02	5.14E-02
EU-5: Highest CP Boiler B	0.15	0.15	0.15	0.08	1.07	0.10	0.90	1290	2.03E-02	1.93E-02
EU-6: NG Boiler G	0.00	0.02	0.02	0.00	0.21	0.01	0.18	259	4.05E-03	3.86E-03
EU-7: Flare 1&2	1.34	1.34	1.34	0.31	3.15	0.27	59.13	5430	1.42E-01	1.42E-01
EU-8: Flare 3&4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EU-9: Gasoline & Diesel Dispensing	-	-	-	-	-	0.16	-	-	-	-
EU-10: Lime Unloading	2.85	1.83	1.83							
Paved Roads	2.17	0.43	0.11	-	-	-	-	-	-	-
Unpaved Roads	1.03	0.26	0.03	-	-	-	-	-	-	-
Total PTE of Entire Source	8.11	4.45	3.89	0.41	22.45	0.98	73.01	7933	0.26	0.22
Exemptions Levels**	< 5	< 5	< 5	< 10	< 10	< 10	< 25	< 100,000	< 25	< 10
Registration Levels**	< 25	< 25	< 25	< 25	< 25	< 25	< 100	< 100,000	< 25	< 10

negl. = negligible

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

**The 100,000 CO₂e threshold represents the Title V and PSD subject to regulation thresholds for GHGs in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD.

Description of Proposed Administrative Amendment

The Office of Air Quality (OAQ) has reviewed an application, submitted by Marion Municipal Utilities on July 5, 2016, relating to the addition of two (2) new generators and the removal of one (1) emergency blower engine and one (1) raw sewage pump engine.

The following are the new emission units:

- (j) One (1) digester gas/natural gas fired generator, identified as CHP Generator EU-11, approved in 2016 for construction, with a maximum power output of 322 hp, powered at 75% by the use of process gas from the anaerobic digestions of wastewater sludge and 25% the use of natural gas.

Under 40 CFR Part 60, Subpart JJJJ, this unit is considered an affected unit.

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

- (k) One (1) fuel oil fired emergency generator, identified as Wastewater Secondary Emergency Generator EU-12, approved in 2016 for construction, with a maximum power output of 546 hp, powered by No. 2 Distillate Fuel Oil.

Under 40 CFR Part 60, Subpart IIII, this unit is considered an affected unit.

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

The following units are being removed from the source:

- (c) One (1) Emergency Blower Engine, identified as EU-3, constructed in 1984, with a maximum heat input rate of 763,000 BTU/hr (approximately 102 hp), 4SRB, powered by digester gas and natural gas, used when the power fails and the back-up generator fails.
- (d) One (1) Raw sewage pump engine, identified as EU-4, constructed in 1984, with a maximum heat input rate of 573,000 BTU/hr (approximately 76 hp), 4SRB, fueled by digester gas and natural gas.

Enforcement Issues

There are no pending enforcement actions related to this administrative amendment.

Emission Calculations

See Appendix A of this TSD for detailed emission calculations.

Permit Level Determination – Administrative Amendment

The following table is used to determine the appropriate administrative amendment level under 326 IAC 2-5.5-6. This table reflects the PTE before controls of the proposed administrative amendment.

Process/ Emission Unit	PTE of Proposed Administrative Amendment (tons/year)								
	PM	PM10	PM2.5	SO ₂	NO _x	VOC	CO	Total HAPs	Worst Single HAP
CHP Generator (EU-11)	0.11	0.00	0.00	0.07	2.70	3.11	7.77	0.00	0.00
Wastewater Secondary Emergency Generator (EU-12)	0.30	0.30	0.30	0.28	4.23	0.34	0.91	0.04	0.01 (Formaldehyde)
Total PTE of Proposed Amendment	0.41	0.30	0.30	0.35	6.93	3.45	8.68	0.04	0.01 (Formaldehyde)

Pursuant to 326 IAC 2-5.5-6(d)(2)(B), this change to the registration is considered an administrative amendment because the registration is amended to indicate changes in descriptive information concerning the source or emission units.

Pursuant to 326 IAC 2-5.5-6(d)(11), this change to the registration is considered administrative amendment because the registration is amended to incorporate a modification that consist of emission unit described under 326 IAC 2-1.1-3(e)(1) through 326 IAC 2-1.1-3(e)(31) (Exemptions).

PTE of the Entire Source After Issuance of the Administrative Amendment

The table below summarizes the potential to emit of the entire source issuance of this administrative amendment, reflecting all limits, of the emission units.

Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of the Administrative Amendment (tons/year)									
	PM	PM10*	PM2.5*	SO2	NOx	VOC	CO	GHGs as CO2e**	Total HAPs	Worst Single HAP
EU-1: DW Diesel Generator	0.21	0.12	0.12	0.00	7.24	0.21	1.66	354	3.32E-03 0.003	1.64E-03 0.001 Benzene
EU-2: WW Diesel Generator	0.14	0.08	0.08	0.00	4.80	0.14	1.10	233	2.20E-03 0.002	1.09E-03 0.001 Benzene
EU-3: Highest CP Blower Engine	0.02	0.02	0.02	0.00	0.42	0.04	0.70	26	6.05E-03	3.86E-03
EU-4: Worst Raw Sewage Pump	0.20	0.20	0.20	0.02	5.55	0.07	9.34	344	8.06E-02	5.14E-02
EU-5: Highest CP Boiler B	0.15	0.15	0.15	0.08	1.07	0.10	0.90	1290	2.03E-02	1.93E-02
EU-6: NG Boiler G	0.00	0.02	0.02	0.00	0.21	0.01	0.18	259	4.05E-03	3.86E-03
EU-7: Flare 1&2	1.34	1.34	1.34	0.31	3.15	0.27	59.13	5430	1.42E-01	1.42E-01
EU-8: Flare 3&4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EU-9: Gasoline & Diesel Dispensing	-	-	-	-	-	0.16	-	-	-	-
EU-10: Lime Unloading	2.85	1.83	1.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EU-11: CHP Generator	0.11	0.00	0.00	0.07	2.70	3.11	7.77	-	0.00	0.00
EU-12: WW Secondary Emergency Generator	0.30	0.30	0.30	0.28	4.23	0.34	0.91	-	0.04	0.01
Paved Roads	2.17	0.43	0.11	-	-	-	-	-	-	-
Unpaved Roads	1.03	0.26	0.03	-	-	-	-	-	-	-
Total PTE of Entire Source	8.11 8.30	4.45 4.28	3.89 3.95	0.41 0.75	22.45 22.95	0.98 4.35	73.04 70.85	7933	0.26	0.22 0.14 (Formaldehyde)
Exemptions Levels**	<5	<5	<5	<10	<10	<10	<25	<25	<10	Exemptions Levels**
Registration Levels**	< 25	< 25	< 25	< 25	< 25	< 25	< 100	< 100,000	< 25	< 10
negl. = negligible *Under the Part 70 Permit program (40 CFR 70), PM10 and PM2.5, not particulate matter (PM), are each considered as a regulated air pollutant". **The 100,000 CO2e threshold represents the Title V and PSD subject to regulation thresholds for GHGs in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD.										

The table below summarizes the potential to emit of the entire source after issuance of this administrative amendment, reflecting all limits, of the emission units. (Note: the table below was generated from the above table, with bold text un-bolded and strikethrough text deleted.)

Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of the Administrative Amendment (tons/year)								
	PM	PM10*	PM2.5*	SO2	NOx	VOC	CO	Total HAPs	Worst Single HAP
EU-1: DW Diesel Generator	0.21	0.12	0.12	0.00	7.24	0.21	1.66	0.003	0.001 Benzene
EU-2: WW Diesel Generator	0.14	0.08	0.08	0.00	4.80	0.14	1.10	0.002	0.001 Benzene
EU-5: Highest CP Boiler B	0.15	0.15	0.15	0.08	1.07	0.10	0.90	2.03E-02	1.93E-02
EU-6: NG Boiler G	0.00	0.02	0.02	0.00	0.21	0.01	0.18	4.05E-03	3.86E-03
EU-7: Flare 1&2	1.34	1.34	1.34	0.31	3.15	0.27	59.13	1.42E-01	1.42E-01
EU-8: Flare 3&4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EU-9: Gasoline & Diesel Dispensing	-	-	-	-	-	0.16	-	-	-
EU-10: Lime Unloading	2.85	1.83	1.83	0.00	0.00	0.00	0.00	0.00	0.00
EU-11: CHP Generator	0.11	0.00	0.00	0.07	2.70	3.11	7.77	0.00	0.00
EU-12: WW Secondary Emergency Generator	0.30	0.30	0.30	0.28	4.23	0.34	0.91	0.04	0.01
Paved Roads	2.17	0.43	0.11	-	-	-	-	-	-
Unpaved Roads	1.03	0.26	0.03	-	-	-	-	-	-
Total PTE of Entire Source	8.30	4.28	3.95	0.75	22.95	4.35	70.85	0.26	0.14 Formaldehyde
Registration Levels	< 25	< 25	< 25	< 25	< 25	< 25	< 100	< 25	< 10
negl. = negligible *Under the Part 70 Permit program (40 CFR 70), PM10 and PM2.5, not particulate matter (PM), are each considered as a regulated air pollutant".									

- (a) This administrative amendment will not change the registration status of the source because the uncontrolled/unlimited potential to emit of PM, NOx and CO, from the entire source, will still be within the ranges listed in 326 IAC 2-5.5-1(b)(1) and the PTE of all other regulated criteria pollutants will still be less than the ranges listed in 326 IAC 2-5.5-1(b)(1). Therefore, the source will still be subject to the provisions of 326 IAC 2-5.5 (Registrations).
- (b) This administrative amendment will not change the minor status of the source, because the uncontrolled/unlimited potential to emit of any single HAP will still be less than ten (10) tons per year and the PTE of a combination of HAPs will still be less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-7.

Federal Rule Applicability Determination

The federal rule applicability for this administrative amendment is as follows:

New Source Performance Standards (NSPS)

- (a) The digester gas/natural gas-fired CHP Generator, identified as EU-11, with a maximum output rating of 322 horsepower (hp), is subject to the New Source Performance Standards for new stationary spark ignition internal combustion engines (40 CFR Subpart JJJJ) because the generator was constructed after July 1, 2008 and is located at an area source of HAPs.

Applicable portions of the NSPS are the following:

- (1) 40 CFR 60.4230(a)(4)(iii) and (c)
- (2) 40 CFR 60.4233(e)
- (3) 40 CFR 60.4234
- (4) 40 CFR 60.4243(b)(2)(i), (e), and (g)
- (5) 40 CFR 60.4244 (a) through (f)
- (6) 40 CFR 60.4245(a)
- (7) 40 CFR 60.4246
- (8) 40 CFR 60.4248
- (9) Table 1
- (10) Table 3

This is a new requirement in the permit.

Note: There are no testing requirements for the affected facility under this Subpart.

- (b) The fuel oil fired Wastewater Secondary Emergency Generator, identified as EU-12, with a maximum output rating of 546 horsepower (hp), is subject to the New Source Performance Standards for new stationary compression ignition internal combustion engines (40 CFR 60, Subpart IIII), because the generator was constructed after July 11, 2005 at an area source of HAPs.

Applicable portions of the NSPS are the following:

- (1) 40 CFR 60.4200(a)(2)(i) and (c)
- (2) 40 CFR 60.4205(a)
- (3) 40 CFR 60.4206
- (4) 40 CFR 60.4207(a) and (b)
- (5) 40 CFR 60.4209
- (6) 40 CFR 60.4211(a), (b)(1), (f), and (g)
- (7) 40 CFR 60.4214(b)
- (8) 40 CFR 60.4218
- (9) 40 CFR 60.4219
- (10) Table 1
- (11) Table 8

This is a new requirement in the permit.

Note: There are no testing requirements for the affected facility under this Subpart.

- (c) There are no other New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included for this proposed administrative amendment.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

- (a) The digester gas/natural gas-fired CHP Generator, identified as EU-11, with a maximum output rating of 322 horsepower (hp) and the Wastewater Secondary Emergency Generator, identified as EU-12, with a maximum output rating of 546 horsepower (hp) are both subject to the requirements of 40 CFR 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines (326 UAC 20-82), because they are both stationary reciprocating internal combustion engines (RICE) located at an area source of hazardous air pollutants and construction of the generators commenced in 2016 (initial installation date).

Applicable portions of the NESHAP are 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 63.6595(a)(7)
- (5) 40 CFR 63.6665
- (6) 40 CFR 63.6670
- (7) 40 CFR 63.6675

This is a new requirement in the permit.

Note: There are no testing requirements for the affected facility under this Subpart.

Pursuant to 40 CFR 63.6665, EU-11 and EU-12, do not have to meet the requirements of 40 CFR 63, Subpart A (General Provisions), because they are considered new stationary RICE at an area source of HAP emissions.

- (b) There are no other National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included for this proposed administrative amendment.

Compliance Assurance Monitoring (CAM)

- (c) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is not included in the registration, because the potential to emit of the source is limited to less than the Title V major source thresholds and the source is not required to obtain a Part 70 or Part 71 permit.

State Rule Applicability Determination

- (a) The state rules applicable to the existing emission units at this source will not change as a result of this Administrative Amendment.
- (b) There are no new state rules as a result of this Administrative Amendment.

Proposed Changes

The following changes listed below are due to the proposed Administrative Amendment. Deleted language appears as ~~strikethrough~~ text and new language appears as **bold** text:

SECTION A SOURCE SUMMARY

A.1 General Information

The Registrant owns and operates stationary public water and wastewater utilities.

Source Address: 1540 North Washington Street, Marion, IN 46952
General Source Phone Number: (765) 664-2391
SIC Code: 4941 - **Water Supply**
4952 - **Sewage Systems**

...

A.2 Emission Units and Pollution Control Equipment Summary

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

...

~~(c) One (1) Emergency Blower Engine, identified as EU-3, constructed in 1984, with a maximum heat input rate of 763,000 BTU/hr (approximately 102 hp), 4SRB, powered by digester gas and natural gas, used when the power fails and the back-up generator fails.~~

~~(d) One (1) Raw sewage pump engine, identified as EU-4, constructed in 1984, with a maximum heat input rate of 573,000 BTU/hr (approximately 76 hp), 4SRB, fueled by digester gas and natural gas.~~

...

(j) One (1) digester gas/natural gas fired generator, identified as CHP Generator EU-11, approved in 2016 for construction, with a maximum power output of 322 hp, powered at 75% by the use of process gas from the anaerobic digestions of wastewater sludge and 25% the use of natural gas.

Under 40 CFR Part 60, Subpart JJJJ, this unit is considered an affected unit.

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

(k) One (1) fuel oil fired emergency generator, identified as Wastewater Secondary Emergency Generator EU-12, approved in 2016 for construction, with a maximum power output of 546 hp, powered by No. 2 Distillate Fuel Oil.

Under 40 CFR Part 60, Subpart IIII, this unit is considered an affected unit.

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

Note: The emission units in Section A.2 have been relettered accordingly in the permit but are not replicated here.

SECTION E.1 OPERATION CONDITIONS NSPS

Facility Description [326 IAC 2-5.1-2(f)(2)] [326 IAC 2-5.5-4(a)(2)]:

- (a) One (1) Drinking Water Emergency Generator, identified as EU-1, constructed in 2007, with a maximum capacity of 1207 hp and a displacement of 33.9 liters, powered by No. 2 diesel fuel, and part of the Emergency Demand Response Program.

Under 40 CFR 60, Subpart IIII, this unit is considered an affected source/facility.

Under 40 CFR 63, Subpart ZZZZ, this unit is considered an affected source/facility.

- (k) **One (1) fuel oil fired emergency generator, identified as Wastewater Secondary Emergency Generator EU-12, approved in 2016 for construction, with a maximum power output of 546 hp, powered by No. 2 Distillate Fuel Oil.**

Under 40 CFR 60, Subpart IIII, this unit is considered an affected source/facility.

Under 40 CFR 63, Subpart ZZZZ, this unit is considered an affected source/facility.

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

E.1.1 General Provisions Relating to New Source Performance Standards (NSPS) for Stationary Compression Ignition Internal Combustion Engines [40 CFR Part 60, Subpart A] [326 IAC 12-1]

Pursuant to 40 CFR 60.4218, the Registrant shall comply with the provisions of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12-1, **for the emission units listed above, except as otherwise specified in 40 CFR Part 60, Subpart IIII, as specified in Table 8 of 40 CFR Part 60, Subpart IIII in accordance with schedule in 40 CFR 60 Subpart IIII.**

E.1.2 New Source Performance Standards (NSPS) for Stationary Compression Ignition Internal Combustion Engines [40 CFR Part 60, Subpart IIII] [326 IAC 12-1]

Pursuant to CFR Part 60, Subpart IIII, the Registrant, which engages in Stationary Compression Ignition Internal Combustion Engines, shall comply with the following provisions of 40 CFR Part 60, Subpart IIII (included as Attachment A of this Registration):

Drinking Water Emergency Generator - EU-1

- (a) 40 CFR 60.4200(a)(2)(i) and (c)
- (b) 40 CFR 60.4205(b)
- (c) 40 CFR 60.4206
- (d) 40 CFR 60.4207(a) and (b)
- (e) 40 CFR 60.4209
- (f) 40 CFR 60.4211(a), (c), (f), and (g)(3)
- (g) 40 CFR 60.4214(b) and (d)
- (h) 40 CFR 60.4218
- (i) 40 CFR 60.4219
- (j) Table 8

Wastewater Secondary Emergency Generator EU-12

- (a) **40 CFR 60.4200(a)(2)(i) and (c)**
- (b) **40 CFR 60.4205(a)**
- (c) **40 CFR 60.4206**
- (d) **40 CFR 60.4207(a) and (b)**
- (e) **40 CFR 60.4209**
- (f) **40 CFR 60.4211(a), (b)(1), (f) and (g)**
- (g) **40 CFR 60.4214(b)**
- (h) **40 CFR 60.4218**
- (i) **40 CFR 60.4219**

- (j) Table 1**
- (k) Table 8**

SECTION E.2 OPERATION CONDITIONS NESHAP

Facility Description [326 IAC 2-5.1-2(f)(2)] [326 IAC 2-5.5-4(a)(2)]:

- (a) One (1) Drinking Water Emergency Generator, identified as EU-1, constructed in 2007, with a maximum capacity of 1207 hp and a displacement of 33.9 liters, powered by No. 2 diesel fuel, and part of the Emergency Demand Response Program.

Under 40 CFR 60, Subpart IIII, this unit is considered an affected source/facility.

Under 40 CFR 63, Subpart ZZZZ, this unit is considered an affected source/facility.

- (b) One (1) Wastewater Emergency Generator, identified as EU-2, constructed in 1984, with a maximum power output of 800 hp, powered by No. 2 diesel fuel, and part of the Emergency Demand Response Program.

Under 40 CFR 63, Subpart ZZZZ, this unit is considered an affected source/facility.

- ~~(c) One (1) Emergency Blower Engine, identified as EU-3, constructed in 1984, with a maximum heat input rate of 763,000 BTU/hr (approximately 102 hp), 4SRB, powered by digester gas and natural gas, used when the power fails and the back-up generator fails.~~

- ~~(d) One (1) Raw sewage pump engine, identified as EU-4, constructed in 1984, with a maximum heat input rate of 573,000 BTU/hr (approximately 76 hp), 4SRB, fueled by digester gas and natural gas.~~

- (j) **One (1) digester gas/natural gas fired generator, identified as CHP Generator EU-11, approved in 2016 for construction, with a maximum power output of 322 hp, powered at 75% by the use of process gas from the anaerobic digestions of wastewater sludge and 25% the use of natural gas.**

Under 40 CFR Part 60, Subpart JJJJ, this unit is considered an affected unit.

Under 40 CFR 63, Subpart ZZZZ, this unit is considered an affected source/facility.

- (k) **One (1) fuel oil fired emergency generator, identified as Wastewater Secondary Emergency Generator EU-12, approved in 2016 for construction, with a maximum power output of 546 hp, powered by No. 2 Distillate Fuel Oil.**

Under 40 CFR 60, Subpart IIII, this unit is considered an affected source/facility.

Under 40 CFR 63, Subpart ZZZZ, this unit is considered an affected source/facility.

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

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

- (a) Pursuant to 40 CFR 63.6665, the Registrant shall comply with the provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 20-1, **for the emission units listed above**, except as otherwise specified in 40 CFR 63, Subpart ZZZZ.

- (b) Pursuant to 40 CFR 63.10, the Registrant shall submit all required notifications and reports to:

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

Indianapolis, Indiana 46204-2251

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

E.2.2 Stationary Reciprocating Internal Combustion Engines NESHAP [40 CFR Part 63, Subpart ZZZZ] [326 IAC 20-82]

~~Pursuant to CFR Part 63, Subpart ZZZZ, The Registrant shall comply with the following provisions of 40 CFR Part 63, Subpart ZZZZ (included as Attachment B of this registration), which are incorporated by reference as 326 IAC 20-82; except as otherwise specified in 40 CFR Part 63, Subpart ZZZZ:~~

Drinking Water Emergency Generator (EU-1) and Wastewater Emergency Generator (EU-2)

- (a) 40 CFR 63.6580
- (b) 40 CFR 63.6585
- (c) 40 CFR 63.6590(a)(1)(iii), (a)(1)(iv), (a)(2)(iii), and (c)(1),
- (d) 40 CFR 63.6595(a)(1), (a)(6), (b), and (c)
- (e) 40 CFR 63.6603(a)
- (f) 40 CFR 63.6605
- (g) 40 CFR 63.6625(e)(3), (e)(8), (f), (h), (i), and (j)
- (h) 40 CFR 63.6640(a), (b), (e), and (f)
- (i) 40 CFR 63.6645(a)(5)
- (j) 40 CFR 63.6650
- (k) 40 CFR 63.6655
- (l) 40 CFR 63.6660
- (m) 40 CFR 63.6665
- (n) 40 CFR 63.6670
- (o) 40 CFR 63.6675
- (p) Table 2d (items 4, 5, 10)
- (q) Table 6 (item 9)
- (r) Table 8

CHP Generator EU-11 and Wastewater Secondary Emergency Generator EU-12

- (a) 40 CFR 63.6580
- (b) 40 CFR 63.6585
- (c) 40 CFR 63.6590(a)(2)(iii) and (c)(1)
- (d) 40 CFR 63.6595(a)(6) and/or (a)(7)
- (e) 40 CFR 63.6665
- (f) 40 CFR 63.6670
- (g) 40 CFR 63.6675

SECTION E.3

OPERATION CONDITIONS NESHAP

Facility Description [326 IAC 2-5.1-2(f)(2)] [326 IAC 2-5.5-4(a)(2)]:

- (i) One (1) Gasoline dispensing tank (underground) and facility, identified as EU-9, constructed in 1984, with a volume of 10,000 gallons, dispensing approximately 15,000 gal/yr.

Under 40 CFR 63, Subpart CCCCCC, this unit is considered an affected source/facility.

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

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

- (a) Pursuant to 40 CFR 63.11130, the Registrant shall comply with the provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 20-1, **for the emission unit listed above**, except as otherwise specified in 40 CFR 63, Subpart CCCCCC.

- (b) Pursuant to 40 CFR 63.10, the Registrant shall submit all required notifications and reports to:

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

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

E.3.2 Source Category: Gasoline Dispensing Facilities NESHAP [40 CFR Part 63, Subpart CCCCCC]

~~Pursuant to CFR Part 63, Subpart CCCCCC, The Registrant shall comply with the following provisions of 40 CFR Part 63, Subpart CCCCCC (included as Attachment C of this registration), which are incorporated by reference as 326 IAC 20-82; **for the emission unit listed above: except as otherwise specified in 40 CFR Part 63, Subpart CCCCCC:**~~

- (a) 40 CFR 63.11110
- (b) 40 CFR 63.11111(a), (b), (e), (f), (h), (i), (j), and (k)
- (c) 40 CFR 63.11112(a) and (d)
- (d) 40 CFR 63.11113
- (e) 40 CFR 63.11115
- (f) 40 CFR 63.11116
- (g) 40 CFR 63.11125(d)
- (h) 40 CFR 63.11130
- (i) 40 CFR 63.11131
- (j) 40 CFR 63.11132
- (k) Table 3

SECTION E.4

NSPS

Facility Description [326 IAC 2-5.1-2(f)(2)] [326 IAC 2-5.5-4(a)(2)]:

- (j) **One (1) digester gas/natural gas fired generator, identified as CHP Generator EU-11, approved in 2016 for construction, with a maximum power output of 322 hp, powered at 75% by the use of process gas from the anaerobic digestions of wastewater sludge and 25% the use of natural gas.**

Under 40 CFR Part 60, Subpart JJJJ, this unit is considered an affected unit.

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

(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 [326 IAC 2-5.5-4(a)]

E.4.1 General Provisions Relating to New Source Performance Standards (NSPS) for Stationary Spark Ignition Internal Combustion Engines [40 CFR Part 60, Subpart A] [326 IAC 12-1]

- (a) Pursuant to 40 CFR 60.4230, the Registrant shall comply with the provisions of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12-1, for the emission unit listed above, except as otherwise specified in 40 CFR Part 60, Subpart JJJJ.
- (b) Pursuant to 40 CFR 63.10, the Registrant shall submit all required notifications and reports to:

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

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

E.4.2 New Source Performance Standards (NSPS) for Stationary Spark Ignition Internal Combustion Engines [40 CFR Part 60, Subpart JJJJ] [326 IAC 12-1]

The Registrant shall comply with the following provisions of 40 CFR Part 60, Subpart JJJJ (included as Attachment D to this Registration), which are incorporated by reference as 326 IAC 12 for the emission unit listed above:

- (1) 40 CFR 60.4230(a)(4)(iv)
- (2) 40 CFR 60.4233(d)
- (3) 40 CFR 60.4234
- (4) 40 CFR 60.4236(c)
- (5) 40 CFR 60.4243(b)(1)
- (6) 40 CFR 60.4243 (d)
- (7) 40 CFR 60.4243 (e)
- (8) 40 CFR 60.4245(a)
- (9) 40 CFR 60.4246
- (10) 40 CFR 60.4248
- (11) Table 1
- (12) Table 3

Conclusion and Recommendation

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on July 5, 2016.

The construction and operation of this proposed Administrative Amendment shall be subject to the conditions of the attached proposed Administrative Amendment No.: 053-37369-00078. The staff recommends to the Commissioner that this Administrative Amendment be approved.

IDEM Contact

- (a) Questions regarding this proposed registration can be directed to Deborah Cole 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) 234-5377 or toll free at 1-800-451-6027, ext. 4-5377.
- (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 Permit Guide on the Internet at: <http://www.in.gov/idem/5881.htm>; and the Citizens' Guide to IDEM on the Internet at: <http://www.in.gov/idem/6900.htm>.

**Appendix A: Emissions Calculations
Source-wide Summary**

Company Name: Marion Municipal Utilities
Address: 1540 North Washington Street, Marion, Indiana 46952
Registration No.: R053-33688-00075
Administrative Amendment No.: 053-37369-00078
Reviewer: Deborah Cole

Potential to Emit of Entire Source										
Emission Unit	PM (tons/yr)	PM10 (tons/yr)	PM2.5 (tons/yr)	SO2 (tons/yr)	NOx (tons/yr)	VOC (tons/yr)	CO (tons/yr)	Total HAPs (tons/yr)	Worst Single HAP	HAP
Drinking Water Emergency Generator (EU-1)	0.21	0.12	0.12	0.00	7.24	0.21	1.66	0.003	0.002	Benzene
Wasterwater Emergency Generator (EU-2)	0.14	0.08	0.08	0.00	4.80	0.14	1.10	0.002	0.001	Benzene
Worst Case Boiler B Digester Gas (EU-5)	0.15	0.15	0.15	0.08	0.60	0.10	0.10	0.020	0.019	Hexane
Building B Boiler B (EU-6)	0.00	0.02	0.02	0.00	0.21	0.01	0.18	0.004	0.004	Hexane
Primary Flare (EU-7)	1.34	1.34	1.34	0.31	3.15	0.27	59.13	0.15	0.14	Formaldehyde
Backup Flare (EU-8)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gasoline and Diesel Dispensing (EU-9)	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.04	0.01	Xylenes
Lime Unloading Operation (EU-10)	2.85	1.83	1.83	0.00	0.00	0.00	0.00	0.00	0.00	
Worst Case CHP Generator Digester Gas (EU-11)	0.11	0.00	0.00	0.07	2.70	3.11	7.77	0.00	0.00	
Wasterwater Secondary Emergency Generator (EU-12)	0.30	0.30	0.30	0.28	4.23	0.34	0.91	0.04	0.01	Formaldehyde
Diesel Dispensing Tank (T2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Paved Roads	2.17	0.43	0.11	0.00	0.00	0.00	0.00	0.00	0.00	
Unpaved Roads	1.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Total	8.30	4.28	3.95	0.75	22.95	4.35	70.85	0.26	0.14	Formaldehyde

Potential to Emit of Current Administrative Amendment	PM (tons/yr)	PM10 (tons/yr)	PM2.5 (tons/yr)	SO2 (tons/yr)	NOx (tons/yr)	VOC (tons/yr)	CO (tons/yr)	Total HAPs (tons/yr)	Worst Single HAP	HAP
CHP Generator (EU-11)	0.11	0.00	0.00	0.07	2.70	3.11	7.77	0.00	0.00	
Wasterwater Secondary Emergency Generator (EU-12)	0.30	0.30	0.30	0.28	4.23	0.34	0.91	0.04	0.01	Formaldehyde
TOTAL:	0.41	0.30	0.30	0.35	6.93	3.45	8.68	0.04	0.01	Formaldehyde

Appendix A: Emission Calculations
Large Reciprocating Internal Combustion Engines - Diesel Fuel
Output Rating (>600 HP)
Maximum Input Rate (>4.2 MMBtu/hr)
 Drinking Water Emergency Generator (EU-1)

Company Name: Marion Municipal Utilities
Address: 1540 North Washington Street, Marion, Indiana 46952
Registration No.: R053-33688-00075
Administrative Amendment No.: 053-37369-00078
Reviewer: Deborah Cole

Emissions calculated based on output rating (hp)

Output Horsepower Rating (hp)	1207.0
Maximum Hours Operated per Year	500
Potential Throughput (hp-hr/yr)	603,500
Sulfur Content (S) of Fuel (% by weight)	0.0015

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	7.00E-04	4.01E-04	4.01E-04	1.21E-05 (.00809S)	2.40E-02 **see below	7.05E-04	5.50E-03
Potential Emission in tons/yr	0.21	0.12	0.12	0.00	7.24	0.21	1.66

*PM10 emission factor in lb/hp-hr was calculated using the emission factor in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Table 3.3-1).

**NOx emission factor: uncontrolled = 0.024 lb/hp-hr, controlled by ignition timing retard = 0.013 lb/hp-hr

Hazardous Air Pollutants (HAPs)

	Pollutant						
	Benzene	Toluene	Xylene	Formaldehyde	Acetaldehyde	Acrolein	Total PAH HAPs***
Emission Factor in lb/hp-hr****	5.43E-06	1.97E-06	1.35E-06	5.52E-07	1.76E-07	5.52E-08	1.48E-06
Potential Emission in tons/yr	0.0016	0.0006	0.0004	0.0002	0.0001	0.0000	0.0004

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

****Emission factors in lb/hp-hr were calculated using emission factors in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Table 3.3-1).

Single Worst HAP	0.0016
Potential Emission of Total HAPs (tons/yr)	0.003

Appendix A: Emission Calculations
Large Reciprocating Internal Combustion Engines - Diesel Fuel
Output Rating (>600 HP)
Maximum Input Rate (>4.2 MMBtu/hr)
Wastewater Emergency Generator (EU-2)

Company Name: Marion Municipal Utilities
Address: 1540 North Washington Street, Marion, Indiana 46952
Registration No.: R053-33688-00075
Administrative Amendment No.: 053-37369-00078
Reviewer: Deborah Cole

Emissions calculated based on output rating (hp)

Output Horsepower Rating (hp)	800.0
Maximum Hours Operated per Year	500
Potential Throughput (hp-hr/yr)	400,000
Sulfur Content (S) of Fuel (% by weight)	0.0015

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	7.00E-04	4.01E-04	4.01E-04	1.21E-05 (.00809S)	2.40E-02 **see below	7.05E-04	5.50E-03
Potential Emission in tons/yr	0.14	0.08	0.08	0.00	4.80	0.14	1.10

*PM10 emission factor in lb/hp-hr was calculated using the emission factor in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Table 3.3-1).

**NOx emission factor: uncontrolled = 0.024 lb/hp-hr, controlled by ignition timing retard = 0.013 lb/hp-hr

Hazardous Air Pollutants (HAPs)

	Pollutant						Total PAH HAPs***
	Benzene	Toluene	Xylene	Formaldehyde	Acetaldehyde	Acrolein	
Emission Factor in lb/hp-hr****	5.43E-06	1.97E-06	1.35E-06	5.52E-07	1.76E-07	5.52E-08	1.48E-06
Potential Emission in tons/yr	0.0011	0.0004	0.0003	0.0001	0.0000	0.0000	0.0003

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

****Emission factors in lb/hp-hr were calculated using emission factors in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Table 3.3-1).

Single Worst HAP	0.0011
Potential Emission of Total HAPs (tons/yr)	0.002

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
 Building B Boiler (EU-5)

Company Name: Marion Municipal Utilities
Address: 1540 North Washington Street, Marion, Indiana 46952
Registration No.: R053-33688-00075
Administrative Amendment No.: 053-37369-00078
Reviewer: Deborah Cole

Heat Input Capacity MMBtu/hr	HHV mmBtu mmscf	Potential Throughput MMCF/yr	
2.5	1020	21.5	8760 hrs/yr

Emission Factor in lb/MMCF	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Potential Emission in tons/yr	0.0	0.1	0.1	0.0	1.1	0.1	0.9

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

PM2.5 emission factor is filterable and condensable PM2.5 combined.

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

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu

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

HAPS Calculations

Emission Factor in lb/MMcf	HAPs - Organics					Total - Organics
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	
	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	
Potential Emission in tons/yr	0.0000	0.0000	0.0008	0.0193	0.0000	0.0202

Emission Factor in lb/MMcf	HAPs - Metals					Total - Metals
	Lead	Cadmium	Chromium	Manganese	Nickel	
	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	
Potential Emission in tons/yr	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
	Total HAPs					0.020
	Worst HAP					0.019

Methodology is the same as above.

The five highest organic and metal HAPs emission factors are provided above.
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emissions Calculations**Digester Combustion Only**

Building B Boiler (EU-5)

Company Name: Marion Municipal Utilities**Address: 1540 North Washington Street, Marion, Indiana 46952****Registration No.: R053-33688-00075****Administrative Amendment No.: 053-37369-00078****Reviewer: Deborah Cole**

Heat Input Capacity MMBtu/hr	HHV mmBtu mmscf	Potential Throughput MMCF/yr	MMBTU/yr	8760 hrs/yr
2.5	600	36.5	21900	

Emission Factor in lb/MMCF	Pollutant						
	PM* **	PM10* **	direct PM2.5* **	SO2***	Nox**	VOC****	CO**
Potential Emission in tons/yr	0.15	0.15	0.15	0.08	0.60	0.10	0.10

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

PM2.5 emission factor is filterable and condensable PM2.5 combined.

**AP-42 Table 2.4-5. (expressed in (lb/10⁶dscf)

Conversion: Emission Factor (lb/MMBtu) = Emission Factor (lb/1,000,000 dscf gas)
x 1/600 (dscf/Btu Methane) x 1,000,000

*** USEPA - Fire 6.23, SCC Code 1-03-007-01

**** AP-42 Table 1.4-2

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Emission Factors are from AP 42, Table 1.4-2 and Table 2.4-5

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/600 MMBtu

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

Hazardous Air Pollutants (HAPs)

Emission factors not available for Digester Gas - see Natural Gas Calculations for EU-5 estimate of HAPs.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
 Building G Boiler (EU-6)

Company Name: Marion Municipal Utilities
Address: 1540 North Washington Street, Marion, Indiana 46952
Registration No.: R053-33688-00075
Administrative Amendment No.: 053-37369-00078
Reviewer: Deborah Cole

Heat Input Capacity MMBtu/hr	HHV mmBtu mmscf	Potential Throughput MMCF/yr	
0.5	1020	4.3	8760 hrs/yr

Emission Factor in lb/MMCF	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Potential Emission in tons/yr	0.0	0.0	0.0	0.0	0.2	0.0	0.2

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

PM2.5 emission factor is filterable and condensable PM2.5 combined.

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

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu

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

HAPS Calculations

Emission Factor in lb/MMcf	HAPs - Organics					Total - Organics
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	
	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	
Potential Emission in tons/yr	4.509E-06	2.576E-06	1.610E-04	3.865E-03	7.300E-06	4.040E-03

Emission Factor in lb/MMcf	HAPs - Metals					Total - Metals
	Lead	Cadmium	Chromium	Manganese	Nickel	
	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	
Potential Emission in tons/yr	1.074E-06	2.362E-06	3.006E-06	8.159E-07	4.509E-06	1.177E-05

Methodology is the same as above.

Total HAPs	4.052E-03
Worst HAP	3.865E-03

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

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

**Appendix A: Emission Calculations
Flares - Digester Gas
Output Rating (<=600 HP)
Maximum Input Rate (<=4.2 MMBtu/hr)
Flare (EU-7)**

**Company Name: Marion Municipal Utilities
Address: 1540 North Washington Street, Marion, Indiana 46952
Registration No.: R053-33688-00075
Administrative Amendment No.: 053-37369-00078
Reviewer: Deborah Cole**

	BTU/hr	% digester gas	BTU/hr digester gas	cf/hr digester gas*
Blower Engine	763000	86%	656180	1094
Raw Sewage Pump	573000	86%	492780	821
Boiler B	2500000	86%	2150000	3583
Total				5498

Primary flare burner capacity is **18,000 cf/hr**, therefore second flare is only needed for backup.
*based on 600 Btu/cf

Emissions Calculations:

Heat Input Capacity (MMBtu/hr)	10.800
Maximum Hours Operated per Year	8760
Potential Throughput (MMBtu/yr)	94,608
Potential Throughput (MM dscf/yr)	158

	Pollutant						
	PM* **	PM10* **	direct PM2.5* **	SO2	Nox**	VOC	CO**
Emission Factor in lb/MMBtu	0.028	0.028	0.028	0.01	0.07	0.01	1.25
Potential Emission in tons/yr	1.34	1.34	1.34	0.31	3.15	0.27	59.13

*PM and PM2.5 emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

**AP-42 Table 2.4-5. (expressed in (lb/10⁶dscf)

Conversion: Emission Factor (lb/MMBtu) = Emission Factor (lb/MM dscf gas) x 1/600 (dscf/Btu Methane mixture)

Hazardous Air Pollutants (HAPs)

	HAPs - Organics					
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	Total - Organics
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	
Potential Emission in tons/yr	1.656E-04	9.461E-05	5.913E-03	1.419E-01	2.681E-04	1.484E-01

	HAPs - Metals					
	Lead	Cadmium	Chromium	Manganese	Nickel	Total - Metals
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	
Potential Emission in tons/yr	3.942E-05	8.672E-05	1.104E-04	2.996E-05	1.656E-04	4.320E-04
						Total HAPs 1.488E-01
						Worst HAP 1.419E-01

The five highest organic and metal HAPs emission factors are provided above.
Emission factors not available for Digester Gas - using Natural Gas emission factors for HAPs.

Appendix A: Emissions Calculations
Fuel Dispensing EU-9
Company Name: Marion Municipal Utilities
Address: 1540 North Washington Street, Marion, Indiana 46952
Registration No.: R053-33688-00075
Administrative Amendment No.: 053-37369-00078
Reviewer: Deborah Cole

Fuel Dispensing Operations PTE

> This worksheet documents potential VOC and HAP emissions from storage tanks and vehicle refueling associated with the gasoline and diesel dispensing operations at the Marion Facility.

Storage Tanks Uncontrolled PTE

> Potential VOC and HAP emissions are quantified using EPA's TANKS v4.0.9d program for calculating loading and standing losses from storage tanks.

EUID	Emission Unit Description	Volume (gal)	Max Annual Throughput (gal/yr)	TANKS	TANKS
				v4.0.9d VOC Emissions (lb/yr)	v4.0.9d VOC Emissions (tpy)
T1	Gasoline Tank	10,000	15,000	143.08	7.15E-02
T2	Diesel Tank #1	2,000	15,000	0.20	1.00E-04

Vehicle Refueling Uncontrolled PTE

> Potential VOC emissions from vehicle refueling with gasoline are based on AP-42, Table 5.2-7 emission factors for evaporative emissions from gasoline service station operations.
 > Potential VOC emissions from vehicle refueling with diesel are based on the AP-42, Table 5.2-1 saturation factor for calculating petroleum liquid loading losses (splash loading assumed) and the following equation from AP-42, Section 5.2:
 Loading Loss (lb/Mgal) = 12.46 * Saturation Factor * True Vapor Pressure at 60°F (psia) * Vapor Molecular Weight (lb/lb-mole) / Bulk Liquid Temperature (°R)
 > Diesel true vapor pressure at 60°F and vapor molecular weight per AP-42, Table 7.1-2.
 > Bulk liquid temperature of diesel assumed. Temperature in °R calculated based on the following equation:
 Bulk Liquid Temperature (°R) = Bulk Liquid Temperature (°F) + 460

EUID	Emission Unit Description	Max Annual Throughput (Kgal/yr)	VOC Displacement Losses (lb/Kgal)	VOC Spillage Losses (lb/Kgal)	Annual VOC Emissions (tpy)	Annual HAP Emissions (tpy)	Basis			
							AP-42, Table 5.2-7, Vehicle Refueling Operations (Stage II)			
F1	Gasoline Dispensing	15	11.00	0.70	0.09	0.00E+00				

EUID	Emission Unit Description	Max Annual Throughput (Kgal/yr)	Saturation Factor	True Vapor Pressure at 60°F (psia)	Vapor Molecular Weight (lb/lb-mole)	Bulk Liquid Temperature (°F)	Bulk Liquid Temperature (°R)	Loading Loss (lb/Kgal)	Annual VOC Emissions (tpy)	Annual HAP Emissions (tpy)

Project PTE Summary

> Total VOC and HAP emissions from the project are summarized below.

EUID	Emission Unit Description	Annual VOC Emissions Gasoline (tpy)	Annual VOC Emissions Diesel (tpy)	Annual VOC Emissions Total (tpy)
T1	Gasoline Tank #1	0.07		
T2	Diesel Tank #1		1.00E-04	
F1	Gasoline Dispensing	0.09		
F2	Diesel Dispensing		2.20E-04	
Total PTE (tpy):		0.16	3.20E-04	0.16

Hazardous Air Pollutants (HAPs)

Volatle Organic HAP	CAS#	HAP Content for Gasoline (% by weight)**	PTE of HAP (tons/yr)
1,3-Butadiene	106-99-0	3.70E-5%	5.89E-06
2,2,4-Trimethylpentane	540-84-1	2.40%	3.82E-03
Benzene	71-43-2	1.90%	3.03E-03
Ethylbenzene	100-41-4	1.70%	2.71E-03
Methyl-tert-butylether	1634-04-4	0.33%	5.26E-04
Naphthalene	91-20-3	0.25%	3.98E-04
n-Hexane	110-54-3	2.40%	3.82E-03
Toluene	108-88-3	8.10%	1.29E-02
Total Xylenes	1330-20-7	9.00%	1.43E-02

Total PTE of HAPs (tons/yr) 4.2E-02
PTE of Worst Single HAP (tons/yr) 1.4E-02 (xylenes)

**Source: Petroleum Liquids. Potter, T.L. and K.E. Simmons. 1998. Total Petroleum Hydrocarbon Criteria Working Group Series, Volume 2. Composition of Petroleum Mixtures. The Association for Environmental Health and Science. Available on the Internet at: <http://www.aehsfoundation.org/Publications.aspx>
 PTE of HAP (tons/yr) = [HAP Content of Gasoline (% by weight)] * [PTE of VOC (tons/yr)]

Appendix A: Emission Calculations
Lime Unloading Operation (EU-10)

Company Name: Marion Municipal Utilities

Address: 1540 North Washington Street, Marion, Indiana 46952

Registration No.: R053-33688-00075

Administrative Amendment No.: 053-37369-00078

Reviewer: Deborah Cole

Uncontrolled Emissions						
EUID	Emission Unit Description	Max Annual Throughput (tons/yr)**	PM Emission Factor (lb/ton)*	PM10, PM2.5 Emission Factor (lb/ton)*	Annual PM Emissions (tpy)	Annual PM10, PM2.5 Emissions (tpy)
EU-10	Lime unloading	7800	0.73	0.47	2.85	1.83

*Emission factors (uncontrolled) are from AP-42 Table 11.12-2, Emission Factors For Concrete Batching, Cement unload to elevated storage silo (pneumatic)

** Per source, 25 tons of lime are unloaded 5 times/month. Added 20% safety factor.

326 IAC 6-3-2 determination:

$$33.3 \text{ tons/hr} * 0.73 \text{ lb/ton} = 24.3 \text{ lb/hour emission}$$

**Appendix A: Emission Calculations
4 Stroke Lean Burn Reciprocating Internal Combustion Engines - Digester Gas
CHP Generator (EU-11)**

**Company Name: Marion Municipal Utilities
Address: 1540 North Washington Street, Marion, Indiana 46952
Registration No.: R053-33688-00075
Administrative Amendment No.: 053-37369-00078
Reviewer: Deborah Cole**

B. Emissions calculated based on output rating (hp)

Output Horsepower Rating (hp)	322.0	
Fuel Consumption (Btu/bhp-hr)	7521.0	From manufacturers Estimated Performance Data sheet at 100% load
Maximum Hours Operated per Year	8760	
Potential Throughput (hp-hr/yr)	2,820,720	

	Pollutant						
	PM*	PM10*	PM 2.5*	SO2*	Nox**	VOC**	CO**
Emission Factor in lb/MMBtu	9.91E-03	7.71E-05	7.71E-05	7.00E-03			
Emission Factor in g/hp-hr					0.87	1.00	2.50
Potential Emission in tons/yr	0.11	0.00	0.00	0.07	2.70	3.11	7.77

Hazardous Air Pollutants (HAPs)

	Pollutant						
	Benzene	Toluene	Xylene	Formaldehyde	Acetaldehyde	Acrolein	Total PAH HAPs***
Emission Factor in lb/MMBtu****							
Potential Emission in tons/yr	0.000	0.000	0.000	0.000	0.000	0.000	0.000

***PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)
****Tons/year = Emission Factor * Fuel consumption * Output horsepower * Hours per year / 2000 lbs per ton / 1,000,000

Potential Emission of Total HAPs (tons/yr)	0.000
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Methodology

Emission Factors are from AP 42 (Supplement B 10/96) Table 3.2-2 and Table 1 to Subpart JJJJ of 40 CFR 60.
*Tons/year = Emission Factor * Fuel consumption * Output horsepower * Hours per year / 2000 lbs per ton / 1,000,000
**Tons/year = Emission Factor * Output horsepower * Hours per year / 454 grams per lb / 2000 lbs per ton

Appendix A: Emission Calculations
4 Stroke Lean Burn Reciprocating Internal Combustion Engines - Natural Gas
CHP Generator (EU-11)

Company Name: Marion Municipal Utilities
Address: 1540 North Washington Street, Marion, Indiana 46952
Registration No.: R053-33688-00075
Administrative Amendment No.: 053-37369-00078
Reviewer: Deborah Cole

B. Emissions calculated based on output rating (hp)

Output Horsepower Rating (hp)	322.0	From manufacturers Estimated Performance Data sheet at 100% load
Fuel Consumption (Btu/bhp-hr)	7521.0	
Maximum Hours Operated per Year	8760	
Potential Throughput (hp-hr/yr)	2,820,720	

	Pollutant						
	PM*	PM10*	PM 2.5*	SO2*	Nox**	VOC**	CO**
Emission Factor in lb/MMBtu	9.91E-03	7.71E-05	7.71E-05	5.88E-04			
Emission Factor in g/hp-hr					1.00	0.70	2.00
Potential Emission in tons/yr	0.11	0.00	0.00	0.01	3.11	2.17	6.21

Emission Factors are from AP 42 (Supplement B 10/96) Table 3.2-2 and Table 1 to Subpart JJJJ of 40 CFR 60.

Hazardous Air Pollutants (HAPs)

	Pollutant						
	Benzene	Toluene	Xylene	Formaldehyde	Acetaldehyde	Acrolein	Total PAH HAPs***
Emission Factor in lb/MMBtu****	4.40E-04	4.08E-04	1.84E-04	5.28E-02	8.36E-03	5.14E-03	2.69E-05
Potential Emission in tons/yr	4.67E-03	4.33E-03	1.95E-03	5.60E-01	8.87E-02	5.45E-02	2.85E-04

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

****Tons/year = Emission Factor * Fuel consumption * Output horsepower * Hours per year / 2000 lbs per ton / 1,000,000

Potential Emission of Total HAPs (tons/yr)	7.14E-01
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Methodology

*Tons/year = Emission Factor * Fuel consumption * Output horsepower * Hours per year / 2000 lbs per ton / 1,000,000

**Tons/year = Emission Factor * Output horsepower * Hours per year / 454 grams per lb / 2000 lbs per ton

Appendix A: Emission Calculations
Reciprocating Internal Combustion Engines - Diesel Fuel (Unlimited)
Output Rating (<=600 HP)
WW Emergency Generator EU-12

Company Name: Marion Municipal Utilities
Address: 1540 North Washington Street, Marion, Indiana 46952
Registration No.: R053-33688-00075
Administrative Amendment No.: 053-37369-00078
Reviewer: Deborah Cole

Emissions calculated based on output rating (hp)

Output Horsepower Rating (hp)	546
Maximum Hours Operated per Year	500
Potential Throughput (hp-hr/yr)	273,000
Sulfur Content (S) of Fuel (% by weight)	0.0015 ^(a)

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr****	2.20E-03	2.20E-03	2.20E-03	2.05E-03	3.10E-02	2.51E-03	6.68E-03
Potential Emission in tons/yr	0.30	0.30	0.30	0.28	4.23	0.34	0.91

*PM and PM2.5 emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Hazardous Air Pollutants (HAPs)

	Pollutant						Total PAH HAPs***	Total HAPS
	Benzene	Toluene	Xylene	Formaldehyde	Acetaldehyde	Acrolein		
Emission Factor in lb/hp-hr****	9.33E-04	4.09E-04	2.85E-04	1.18E-03	7.67E-04	9.25E-05	1.68E-04	
Potential Emission in tons/yr	0.009	0.004	0.003	0.011	0.007	0.001	0.002	0.04

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

****Emission factors in lb/hp-hr were calculated using emission factors in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Table 3.3-1).

^(a)Note: Pursuant to 40 CFR Part 60, Subpart I, §80.510©, beginning June 1, 2010, non-road engines must operate with a sulfur content of 0.0015% (15ppm).

Methodology

Emission Factors are from AP-42 (Supplement F, July 2000), Table 3.2-3

Potential Fuel Usage (MMBtu/yr) = [Maximum Output Horsepower Rating (hp)] * [Brake Specific Fuel Consumption (Btu/hp-hr)] * [Maximum Hours Operated per Year (hr/yr)] / [1000000 Btu/MMBtu]

Potential Emissions (tons/yr) = [Potential Fuel Usage (MMBtu/yr)] * [Emission Factor (lb/MMBtu)] / [2000 lb/ton]

**Appendix A: Emission Calculations
Fugitive Emissions From Paved Roads**

Company Name: Marion Municipal Utilities
Address: 1540 North Washington Street, Marion, Indiana 46952
Registration No.: R053-33688-00075
Administrative Amendment No.: 053-37369-00078
Reviewer: Deborah Cole

1. Emission Factors: AP-42

According to AP-42, Chapter 13.2.1 - Paved Roads (11/01), the PM, PM10, and PM2.5 emission factors for paved roads can be estimated from the following equation:

$$E = [(k \times (sL)^a) \times (w)^b] \times (1 - p / (4 \times 365)) \tag{2.36}$$

where:

- E = emission factor (lb/vehicle mile traveled)
- sL = road surface silt loading (g/m²) = 7.4 (g/m²) (From AP-42, Table 13.2-1-3, Municipal Solid Waste Landfill.)
- w = mean vehicle weight (tons) = 6.47 tons
- k = empirical constant = 0.011 for PM, 0.0022 for PM10, and 0.00054 for PM2.5
- a = empirical constant = 0.91
- b = empirical constant = 1.02
- p = number of days per year with 0.01 inches precipitation 120

PM Emission Factor = $[(0.011 \times 1.1^{0.91}) \times 27.5^{1.02}] \times (1 - 120/1460) = \mathbf{0.42 \text{ lbs/mile}}$

PM10 Emission Factor = $[(0.0022 \times 1.1^{0.91}) \times 27.5^{1.02}] \times (1 - 120/1460) = \mathbf{0.08 \text{ lbs/mile}}$

PM2.5 Emission Factor = $[(0.00054 \times 1.1^{0.91}) \times 27.5^{1.02}] \times (1 - 120/1460) = \mathbf{0.021 \text{ lbs/mile}}$

2. Potential to Emit (PTE) of PM, PM10, PM2.5 Before Control from Paved Roads:

User	Number of Users/Day	Vehicle Weight (lbs)	Number of Trips/Day	Miles per trip	Miles/Day	Traffic Component (%)	Component Vehicle Weight (tons)	PTE of PM	PTE of PM10	PTE of PM2.5
WWTP Employees w/cars	15	4000	4	0.05	3.00	10.58%	0.212	0.230	0.046	0.011
WWTP Emploeyss w/ pickups	29	8000	4	0.05	5.80	20.45%	0.818	0.444	0.089	0.022
Billing Customers	60	6000	2	0.05	6.00	21.16%	0.635	0.459	0.092	0.023
Eng & SM pickups	6	9000	8	0.03	1.44	5.08%	0.229	0.110	0.022	0.005
Full Vac Trucks	2	46000	8	0.08	1.28	4.51%	1.038	0.098	0.020	0.005
Vac Trucks to Dump (3/wk)	2	36000	1.2	0.2	0.48	1.69%	0.305	0.037	0.007	0.002
WW Maint Pickups (1/wk)	2	9000	0.4	0.23	0.18	0.65%	0.029	0.014	0.003	0.001
Program Support Van	1	4500	4	0.14	0.56	1.97%	0.044	0.043	0.009	0.002
Sludge Trucks	3	54000	4	0.14	1.68	5.92%	1.600	0.129	0.026	0.006
Chlorine and SO2 Trucks (1/mo)	2	17000	0.09	0.10	0.02	0.06%	0.005	0.001	0.000	0.000
Alum Truck (1/mo)	1	80000	0.05	0.14	0.01	0.02%	0.009	0.000	0.000	0.000
Septic Hauler Trucks (30/mo)	1	25000	2.73	0.07	0.19	0.67%	0.084	0.015	0.003	0.001
Vendors/Contractors	3	6000	2	0.07	0.42	1.48%	0.044	0.032	0.006	0.002
DWTP Employees w/ cars	4	4000	4	0.04	0.64	2.26%	0.045	0.049	0.010	0.002
DWTP Employees w/ trucks	15	8000	4	0.04	2.40	8.46%	0.339	0.184	0.037	0.009
DWTP Visitors	3	6000	2	0.02	0.12	0.42%	0.013	0.009	0.002	0.000
DW Pickups	4	9000	4	0.03	0.48	1.69%	0.076	0.037	0.007	0.002
Distribution pickups	4	9000	8	0.05	1.60	5.64%	0.254	0.122	0.024	0.006
Distribution Box truck	1	17000	6	0.05	0.30	1.06%	0.090	0.023	0.005	0.001
Distribution vac truck	1	26000	6	0.08	0.48	1.69%	0.220	0.037	0.007	0.002
Distribution sump trucks	2	20000	4	0.08	0.64	2.26%	0.226	0.049	0.010	0.002
Backhoe	1	16000	4	0.05	0.20	0.71%	0.056	0.015	0.003	0.001
Water Hauling Trucks	1	15000	2	0.13	0.26	0.92%	0.069	0.020	0.004	0.001
Vendors/Contractors	2	6000	2	0.04	0.16	0.56%	0.017	0.012	0.002	0.001
Incoming Lime Truck (5/mo)	1	50000	0.45	0.03	0.01	0.05%	0.012	0.001	0.000	0.000
CO2 Truck (1/2mo)	1	70000	0.02	0.13	0.00	0.01%	0.004	0.000	0.000	0.000
Chlorine Truck (1/mo)	1	17000	0.09	0.03	0.00	0.01%	0.001	0.000	0.000	0.000
Total					28.36	100.00%	6.47	2.170	0.434	0.107

Methodology

Traffic Component (%) = VMT / Total VMT
 Component Vehicle Weight = Ave. Weight of Vehicles (ton) x Traffic Component (%)
 PTE of PM/PM10 before Control (tons/yr) = VMT (miles/yr) x PM/PM10 Emission Factors x 1 ton/2000 lbs

**Appendix A: Emission Calculations
Fugitive Emissions From Unpaved Roads**

Company Name: Marion Municipal Utilities
Address: 1540 North Washington Street, Marion, Indiana 46952
Registration No.: R053-33688-00075
Administrative Amendment No.: 053-37369-00078
Reviewer: Deborah Cole

1. Emission Factors: AP-42

According to AP-42, Section 13.2.2 Unpaved Roads, November 2006, the PM/PM10 emission factors for unpaved roads can be estimated from the following equation:

lbs/VMT Equation: $E = k(s/12)^a (W/3)^b$

Where:

Particle size multiplier k	4.9 dimensionless (PM-30 or TSP)	1.5 dimensionless PM-10
surface material silt content (%) s	0.15 dimensionless PM2.5	
mean vehicle weight, 25 ton capacity W	4.8 Table 13.2.2-1	
Equation constants a	11.0 tons	
b	0.7 PM-30 or TSP Table 13.2.2-2	0.9 PM-10/PM2.5 Table 13.2.2-2
	0.45 PM-30 or TSP Table 13.2.2-2	0.45 PM-10/PM2.5 Table 13.2.2-3

PM Emission Factor = $(4.9) \times (4/12)^{0.7} \times (5/3)^{0.45} = 4.62 \text{ lbs/mile}$

PM10 Emission Factor = $(1.5) \times (4/12)^{0.9} \times (5/3)^{0.45} = 1.18 \text{ lbs/mile}$

PM2.5 Emission Factor = $(0.15) \times (4/12)^{0.9} \times (5/3)^{0.45} = 0.12 \text{ lbs/mile}$

2. Potential to Emit (PTE) of PM, PM10, and PM2.5 from unpaved Roads:

Emission Area	Vehicle Weight (tons)	Unpaved Total VMT	Total Vehicle Emissions (lb/yr)	Total Vehicle Emissions (tpy)
Maintenance Roads (TSP)	10.97	445	2,059	1.03
Maintenance Roads (PM10)	10.97	445	525	0.26
Maintenance Roads (PM2.5)	10.97	445	52	0.03

3. Information is provided by the source:

User	Number of Users/Day	Vehicle Weight (lbs)	Weight Total	Number of Trips/Day	Miles per trip	Miles/Day
DW Pickups (2/wk)	1	9000	9000	0.8	0.12	0.10
Lime Trucks (400/yr)	3	25580	76740	3	0.12	1.08
Loader (1/wk)	1	24000	24000	0.4	0.12	0.05
Sum	5		109740			
Average Vehicle Weight		21948		Total Miles Travelled per day=		1.22

Methodology

Total Vehicle Emissions (tons/yr) = Unpaved Total VMT (miles/yr) x PM/PM10 Emission Factors x 1 ton/2000 lbs



Indiana Department of Environmental Management

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Michael R. Pence
Governor

Carol S. Comer
Commissioner

SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: Robin Shrader
Marion Municipal Utilities
1540 N Washington St
Marion, IN 46952

DATE: August 16, 2016

FROM: Matt Stuckey, Branch Chief
Permits Branch
Office of Air Quality

SUBJECT: Final Decision
Registration
053-37369-00078

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:
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 2/17/2016

Mail Code 61-53

IDEM Staff	CDENNY 8/16/2016 Marion Municipal Utilities 053-37369-00078 (final)		Type of Mail: CERTIFICATE OF MAILING ONLY	AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender		Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204		

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handling Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee
											Remarks
1		Robin Shrader Marion Municipal Utilities 1540 N Washington St Marion IN 46952 (Source CAATS)									
2		Marion City Council and Mayors Office 301 S. Branson Street Marion IN 46952-4052 (Local Official)									
3		Ms. Mary Shipley 10968 E 100 S Marion IN 46953 (Affected Party)									
4		Grant County Health Department 401 S. Adams St, Courthouse Complex Marion IN 46953-2031 (Health Department)									
5		Mr. Thomas Lee Clevenger 4005 South Franks Lane Selma IN 47383 (Affected Party)									
6											
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Total number of pieces Listed by Sender	Total number of Pieces Received at Post Office	Postmaster, Per (Name of Receiving employee)	The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is \$50,000 per piece subject to a limit of \$50, 000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is \$500. The maximum indemnity payable is \$25,000 for registered mail, sent with optional postal insurance. See Domestic Mail Manual R900, S913, and S921 for limitations of coverage on inured and COD mail. See International Mail Manual for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.
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