



Louisville Metro Air Pollution Control District
850 Barret Avenue
Louisville, Kentucky 40204-1745



Title V Operating Permit

Permit No.: 131-97-TV (R3)

Plant ID: 1248

Effective Date: 4/22/2014

Expiration Date: 4/30/2019

Permission is hereby given by the Louisville Metro Air Pollution Control District to operate the process(es) and equipment described herein which are located at:

Louisville Gas & Electric Company
Zorn Generating Station
3001 Upper River Road
Louisville, KY 40207

The applicable procedures of District Regulation 2.16 regarding review by the U.S. EPA and public participation have been followed in the issuance of this permit. Based on review of the application on file with the District, permission is given to operate under the conditions stipulated herein. If a renewal permit is not issued prior to the expiration date, the owner or operator may continue to operate in accordance with the terms and conditions of this permit beyond the expiration date, provided that a complete renewal application is submitted to the District no earlier than eighteen (18) months and no later than one-hundred eighty (180) days prior to the expiration date.

Application No.: 61785

Application Received: 1/15/2014

Permit Writer: Yiqiu Lin

Administratively Complete: 3/06/2014

Date of Public Notice: 03/06/2014

Date of proposed permit: 03/06/2014


Air Pollution Control Officer
April 22, 2014

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Title V Permit Revisions/Changes

Revision No.	Issue Date	Public Notice Date	Type	Attachment No./Page No.	Description
Initial	12/22/1999	10/17/1999	Initial	Entire Permit	Initial Permit Issuance
R1	2/10/2002	N/A	Administrative	Cover page	Corrected expiration date to 12/17/2004
R2	7/15/2009	3/25/2009	Renewal	Entire Permit	5 year Renewal, Corrected usage limits for diesel fuel and natural gas, Additional ROs
R3	4/22/2014	3/06/2014	Renewal	Entire Permit	5 year Renewal

Abbreviations and Acronyms

AP-42	- AP-42, <i>Compilation of Air Pollutant Emission Factors, published by USEPA</i>
APCD	- Louisville Metro Air Pollution Control District
BAC	- Background Ambient Concentration
Btu	- British thermal unit
CEMS	- Continuous Emission Monitoring System
CFR	- Code of Federal Regulations
CO	- Carbon monoxide
District	- Louisville Metro Air Pollution Control District
EA	- Environmental Acceptability
gal	- U.S. fluid gallons
GHG	- Greenhouse Gas
HAP	- Hazardous Air Pollutant
HCl	- Hydrogen chloride
Hg	- Mercury
hr	- hour
in.	- inches
lbs	- pounds
l	- liter
LMAPCD	- Louisville Metro Air Pollution Control District
mm _{Hg}	- millimeters of mercury column height
MM	- million
NAICS	- North American Industry Classification System
NO _x	- Nitrogen oxides
PM	- Particulate Matter
PM ₁₀	- Particulate Matter less than 10 microns
PM _{2.5}	- Particulate Matter less than 2.5 microns
ppm	- parts per million
PSD	- Prevention of Significant Deterioration
psia	- pounds per square inch absolute
QA	- Quality Assurance
SIC	- Standard Industrial Classification
SIP	- State Implementation Plan
SO ₂	- Sulfur dioxide
STAR	- Strategic Toxic Air Reduction
TAC	- Toxic Air Contaminant
UTM	- Universal Transverse Mercator
VOC	- Volatile Organic Compound
w.c.	- water column
year	- any period of twelve consecutive months, unless "calendar year" is specified
yr	- year, or any 12 consecutive-month period, as determined by context

Preamble

Title V of the Clean Air Act Amendments of 1990 required EPA to create an operating permit program for implementation by state or local air permitting authorities. The purposes of this program are (1) to require an affected company to assume full responsibility for demonstrating compliance with applicable regulations; (2) to capture all of the regulatory information pertaining to an affected company in a single document; and (3) to make permits more consistent with each other.

A company is subject to the Title V program if it meets any of several criteria related to the nature or amount of its emissions. The Title V operating permit specifies what the affected company is, how it may operate, what its applicable regulations are, how it will demonstrate compliance, and what is required if compliance is not achieved. In Jefferson County, Kentucky, the Louisville Metro Air Pollution Control District (LMAPCD) is responsible for issuing Title V permits to affected companies and enforcing local regulations and delegated federal and state regulations. EPA may enforce federal regulations but not "District Only Enforceable Regulations".

Title V offers the public an opportunity to review and comment on a company's draft permit. It is intended to help the public understand the company's compliance responsibility under the Clean Air Act. Additionally, the Title V process provides a mechanism to incorporate new applicable requirements. Such requirements are available to the public for review and comment before they are adopted.

Title V Permit general conditions define requirements which are generally applicable to all Title V companies under the jurisdiction of LMAPCD. This avoids repeating these requirements in every section of the company's Title V permit. Company-specific conditions augment the general conditions as necessary; these appear in the sections of the permit addressing individual emission units or emission points.

The general conditions include references to regulatory requirements that may not currently apply to the company, but which provide guidance for potential changes at the company or in the regulations during the life of the permit. Such requirements may become applicable if the company makes certain modifications or a new applicable requirement is adopted.

When the applicability of a section or subpart of a regulation is unclear, a clarifying citation will be made in the company's Title V permit at the emission unit/point level. Comments may also be added at the emission unit/point level to give further clarification or explanation.

The source's Title V permit may include a current table of "insignificant activities."

Insignificant activities are defined in District Regulation 2.16 section 1.22, as of the date the permit was proposed for review by U.S. EPA, Region 4.

Insignificant activities identified in District Regulation 1.02, Appendix A may be subject to size or production rate disclosure requirements pursuant to Regulation 2.16 section 3.5.4.1.4.

Insignificant activities identified in District Regulation 1.02, Appendix A shall comply with generally applicable requirements as required by Regulation 2.16 section 4.1.9.4.

General Conditions

1. **Compliance** - The owner or operator shall comply with all applicable requirements and with all terms and conditions of this permit. Any noncompliance shall constitute a violation of the Act, State and District regulations and shall cause the source to be subject to enforcement actions including, but not limited to, the termination, revocation and reissuance, or revision of this permit, or denial of a permit application to renew this permit. Notwithstanding any other provision in the Jefferson County portion of the Kentucky SIP approved by EPA, any credible evidence may be used for the purpose of establishing whether the owner or operator is in compliance with, has violated, or is in violation of any such plan. (Regulation 2.16, sections 4.1.3, 4.1.13.1 and 4.1.13.7)
2. **Compliance Certification** - The owner or operator shall certify, annually or more frequently if required in applicable regulations, compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. This certification shall meet the requirements of Regulation 2.16, sections 3.5.11 and 4.3.5. The owner or operator shall submit the annual compliance certification directly to the following address as well as to the District, as set forth in Regulation 2.16, section 4.3.5.4:

*US EPA - Region IV
Air Enforcement Branch
Atlanta Federal Center
61 Forsyth Street
Atlanta, GA 30303-8960*

3. **Compliance Schedule** - A compliance schedule must meet the requirements of Regulation 2.16, section 3.5.9.5. The owner or operator shall submit a schedule of compliance for each emission unit that is not in compliance with all applicable requirements. A schedule of compliance shall be supplemental to, and shall not condone noncompliance with, the applicable requirements on which it is based. For each schedule of compliance, the owner or operator shall submit certified progress reports at least semi-annually, or at a more frequent period if specified in an applicable requirement or by the District in accordance with Regulation 2.16 section 4.3.4. The progress reports shall contain:
 - a. Dates for achieving the activities, milestones, or compliance required in the schedule of compliance, and dates when activities, milestones, or compliance were achieved.
 - b. An explanation of why dates in the schedule of compliance were not or will not be met, and preventive or corrective measures adopted.
4. **Duty to Supplement or Correct Application** - If the owner or operator fails to submit relevant facts or has submitted incorrect information in the permit application, it shall,

upon discovery of the occurrence, promptly submit the supplementary facts or corrected information in accordance with Regulation 2.16, section 3.4.

5. **Emergency Provision**

- a. An emergency shall constitute an affirmative defense to an enforcement action brought for noncompliance with technology-based emission limitations. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - i. An emergency occurred and that the owner or operator can identify the cause of the emergency.
 - ii. The permitted facility was at the time being properly operated.
 - iii. During the period of the emergency the owner or operator expeditiously took all reasonable steps, consistent with safe operating practices, to minimize levels of emissions that exceeded the emission standards or other requirements in this permit.
 - iv. The owner or operator submitted notice meeting the requirements of Regulation 1.07 of the time when emissions limitations were exceeded because of the emergency. This notice must fulfill the requirement of this condition, and must contain a description of the emergency, any steps taken to mitigate emissions, and any corrective actions taken.
- b. In an enforcement proceeding, the owner or operator seeking to establish the occurrence of an emergency has the burden of proof.
- c. This condition is in addition to any emergency or upset provision contained in an applicable requirement. (Regulation 2.16, sections 4.7.1 through 4.7.4)

6. **Emission Fees Payment Requirements** - The owner or operator shall pay annual emission fees in accordance with Regulation 2.08, section 2. Failure to pay the emissions fees when due shall constitute a violation of District Regulations. Such failure is subject to penalties and an increase in the fee of an additional 5% per month up to a maximum of 25% of the original amount due. In addition, failure to pay emissions fees within 60 days of the due date shall automatically suspend this permit to operate until the fee is paid or a schedule for payment acceptable to the District has been established. (Regulation 2.08, section 1.6)

7. **Emission Offset Requirements** - The owner or operator shall comply with the requirements of Regulation 2.04.

8. **Enforceability Requirements** - Except for the conditions that are specifically designated as "District Only Enforceable Conditions", all terms and conditions of this permit,

including any provisions designed to limit a source's potential to emit, are enforceable by EPA and citizens as specified under the Act. (Regulation 2.16, sections 4.2.1 and 4.2.2)

9. **Enforcement Action Defense**

- a. It shall not be a defense for the owner or operator in an enforcement action that it would have been necessary for the owner or operator to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- b. The owner or operator's failure to halt or reduce activity may be a mitigating factor in assessing penalties for noncompliance if the health, safety or environmental impacts of halting or reducing operations would be more serious than the impacts of continued operation. (Regulation 2.16, sections 4.1.13.2 and 4.1.13.3)

10. **Hazardous Air Pollutants and Sources Categories** - The owner or operator shall comply with the applicable requirements of Regulations 5.02 and 5.14.

11. **Information Requests** - The owner or operator shall furnish to the District, within a reasonable time, information requested in writing by the District, to determine whether cause exists for revising, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The owner or operator shall also furnish, upon request, copies of records required to be kept by this permit. (Regulation 2.16, section 4.1.13.6)

If information is submitted to the District under a claim of confidentiality, the source shall submit a copy of the confidential information directly to EPA. (Regulation 2.07, section 10.2)

12. **Insignificant Activities** - The owner or operator shall:

- a. Notify the District in a timely manner of any proposed change to an insignificant activity that would require a permit revision. (Regulation 2.16, section 5)
- b. Submit a current list of insignificant activities by April 15 of each year with the annual compliance certification, including an identification of the additions and removals of insignificant activities that occurred during the preceding year. (Regulation 2.16, section 4.3.5.3.6)

13. **Inspection and Entry** - Upon presentation of credentials and other documents as required by law, the owner or operator shall allow the District or an authorized representative to perform the following during reasonable hours:

- a. Enter the premises to inspect any emissions-related activity or records required in this permit.

- b. Have access to and copy records required by this permit.
- c. Inspect facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required by this permit.
- d. Sample or monitor substances or parameters to assure compliance with this permit or any applicable requirements. (Regulation 2.16, section 4.3.2)

14. **Monitoring and Related Record Keeping and Reporting Requirement** - The owner or operator shall comply with the requirements of Regulation 2.16, section 4.1.9. Unless specified elsewhere in this permit, the owner or operator shall complete required monthly record keeping within 30 days following the end of each calendar month. The owner or operator shall submit all required monitoring reports at least once every six months, unless more frequent reporting is required by an applicable requirement. The reporting period shall be 1 January through 30 June and 1 July through 31 December of each calendar year. All reports shall be sent to the District at the address shown in paragraph 2 of these General Conditions and must be postmarked by the 60th day following the end of each reporting period. If surrogate operating parameters are monitored and recorded in lieu of emission monitoring, then an exceedance of multiple parameters may be deemed a single violation by the District for enforcement purposes. All reports shall include the company name, plant ID number, and the beginning and ending date of the reporting period. The compliance reports shall clearly identify any deviation from a permit requirement or a declaration that there were no such deviations. All semi-annual compliance reports shall include the statement "Based on information and belief formed after reasonable inquiry, I certify that the statements and information in this document are true, accurate, and complete" and the signature and title of a responsible official of the company.

The semi-annual compliance reports are due on or before the following dates of each calendar year:

<u>Reporting Period</u>	<u>Report Due Date</u>
January 1 - June 30	August 29
July 1 - December 31	March 1 of the following year

If a change in the responsible official (RO) occurs during the term of this permit, or if an RO is added, the owner or operator shall provide written notification (Form AP-100A) to the District within 30 calendar days of such change or addition.

15. **Off-permit Documents**- Any applicable requirements, including emission limitations, control technology requirements, or work practice standards, contained in an off-permit document cannot be changed without undergoing the permit revision procedures in Regulation 2.16, Section 5. (Regulation 2.16, section 4.1.5)

16. **Operational Flexibility** - The owner or operator may make changes without permit revision in accordance with Regulation 2.16, section 5.8.
17. **Permit Amendments (Administrative)** - This permit can be administratively amended by the District in accordance with Regulation 2.16, sections 2.3 and 5.4.
18. **Permit Application Submittal** - The owner or operator shall submit a timely and complete application for permit renewal or significant revision. If the owner or operator submits a timely and complete application then the owner or operator's failure to have a permit is not a violation until the District takes formal action on this permit application. This protection shall cease to apply if, subsequent to completeness determination, the owner or operator fails to submit, by the deadline specified in writing by the District, additional information required to process the application as required by Regulation 2.16, sections 3 and 5.2.
19. **Permit Duration** - This permit is issued for a fixed term of 5 years, in accordance with Regulation 2.16, section 4.1.8.3.
20. **Permit Renewal, Expiration and Application** - Permit renewal, expiration and application procedural requirements shall be in accordance with Regulation 2.16, sections 4.1.8.2 and 5.3. This permit may only be renewed in accordance with section 5.3.
21. **Permit Revisions** - No permit revision shall be required under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in the permit. (Regulation 2.16, section 4.1.16)
22. **Permit Revision Procedures (Minor)** - Except as provided in 40 CFR Part 72, the Acid Rain Program, this permit may be revised in accordance with Regulation 2.16, section 5.5.
23. **Permit Revision Procedures (Significant)** - A source seeking to make a significant permit revision shall meet all the Title V requirements for permit applications, issuance and Permit renewal, in accordance with Regulation 2.16, section 5.7, and all other applicable District Regulations.
24. **Permit Revocation and Termination by the District** - The District may terminate this permit only upon written request of the owner or operator. The District may revoke a permit for cause, in accordance with Regulation 2.16, section 5.11.1.1 through 5.11.1.5. For purposes of Section 5, substantial or unresolved noncompliance includes, but is not limited to:
 - a. Knowingly operating process or air pollution control equipment in a manner not allowed by an applicable requirement or that results in excess emissions of a regulated air pollutant that would endanger the public or the environment.
 - b. Failure or neglect to furnish information, analyses, plans, or specifications required by the District.

- c. Knowingly making any false statement in any permit application.
 - d. Noncompliance with Regulation 1.07, section 4.2; or
 - e. Noncompliance with KRS Chapter 77.
25. **Permit Shield** - The permit shield shall apply in accordance with Regulation 2.16, section 4.6.1.
26. **Prevention of Significant Deterioration of Air Quality** - The owner or operator shall comply with the requirements of Regulation 2.05.
27. **Property Rights** - This permit shall not convey property rights of any sort or grant exclusive privileges in accordance with Regulation 2.16, section 4.1.13.5.
28. **Public Participation** - Except for modifications qualifying for administrative permit amendments or minor permit revision procedures, all permit proceedings shall meet the requirements of Regulations 2.07, Section 1; and 2.16, sections 5.1.1.2 and 5.5.4.
29. **Reopening For Cause** - This permit shall be reopened and revised by the District in accordance with Regulation 2.16 section 5.9.
30. **Reopening for Cause by EPA** - This permit may be revised, revoked and reissued or terminated for cause by EPA in accordance with Regulation 2.16 section 5.10.
31. **Risk Management Plan (112(r))** - For each process subject to Section 112(r) of the Act, the owner or operator shall comply with 40 CFR Part 68 and Regulation 5.15.
32. **Severability Clause** - The conditions of this permit are severable. Therefore, if any condition of this permit, or the application of any condition of this permit to any specific circumstance, is determined to be invalid, the application of the condition in question to other circumstances, as well as the remainder of this permit's conditions, shall not be affected. (Regulation 2.16, section 4.1.12)
33. **Stack Height Considerations** - The owner or operator shall comply with the requirements of Regulation 2.10.
34. **Startups, Shutdowns, and Upset Conditions Requirements** - The owner or operator shall comply with the requirements of Regulation 1.07.
35. **Submittal of Reports, Data, Notifications, and Applications**
- a. Applications, reports, test data, monitoring data, compliance certifications, and any other document required by this permit as set forth in Regulation 2.16 sections 3.1, 3.4, 3.5, 4.1.13.6, 5.8.5 and 5.11.7 shall be submitted to:

*Louisville Metro Air Pollution Control District
Room #205*

**850 Barret Ave
Louisville, KY 40204-1745**

- b. Documents which are specifically required to be submitted to EPA as set forth in Regulation 2.16 sections 3.3, and 5.8.5 shall be mailed to EPA at the following address:

**US EPA - Region IV
APTMD - 12th floor
Atlanta Federal Center
61 Forsyth Street
Atlanta, GA 30303-3104**

36. **Other Applicable Regulations** - The owner or operator shall comply with all applicable requirements of the following:

Federally Enforceable Regulations:

Regulation	Title
1.01	General Provisions
1.02	Definitions
1.03	Abbreviations And Acronyms
1.04	Performance Tests
1.05	Compliance With Emissions Standards And Maintenance Requirements
1.06	Source Self-Monitoring and Reporting
1.07	Emissions During Shutdowns, Malfunctions, Startups, and Emergencies
1.08	Administrative Procedures
1.09	Prohibition of Air Pollution
1.10	Circumvention
1.11	Control of Open Burning
1.14	Control of Fugitive Particulate Emissions
2.01	General Application
2.02	Air Pollution Regulation Requirements and Minor Facility Exemptions
2.03	Permit Requirements - Non-Title V Construction and Operating Permits and Demolition/Renovation Permits
2.07	Public Notification for Title V, PSD, and Other Offset Permits; SIP Revisions; and Use of Emission Reduction Credits
2.09	Causes for Permit Suspension
2.10	Stack Height Considerations
2.11	Air Quality Model Usage
2.16	Title V Operating Permits
4.01	General Provisions for Emergency Episodes

Regulation	Title
4.02	Episode Criteria
4.03	General Abatement Requirements
4.07	Episode Reporting Requirements
6.01	General Provisions (Existing Affected Facilities)
6.02	Emission Monitoring for Existing Sources
7.01	General Provisions (New Affected Facilities)

District Only Enforceable Regulations:

Regulation	Title
1.12	Control of Nuisances
1.13	Control of Objectionable Odors
2.08	Emission Fee, Permit Fees and Permit Renewal Procedures
5.00	Definitions
5.01	General Provisions
5.02	Adoption of National Emission Standards for Hazardous Air Pollutants
5.14	Hazardous Air Pollutants and Source Categories
5.20	Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant
5.21	Environmental Acceptability for Toxic Air Contaminants
5.22	Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant
5.23	Categories of Toxic Air Contaminants

37. **Stratospheric Ozone Protection Requirements** - Any facility having refrigeration equipment, including air conditioning equipment, which uses a Class I or II substance (listed in 40 CFR 82, Subpart A, Appendices A and B), and any facility which maintains, services, or repairs motor vehicles using a Class I or II substance as refrigerant must comply with all requirements of 40 CFR 82, Subparts A, B, and F. Those requirements include the following restrictions:

- a. Any facility having any refrigeration equipment normally containing fifty (50) pounds of refrigerant, or more, must keep servicing records documenting the date and type of all service and the quantity of any refrigerant added according to 40 CFR 82.166;
- b. No person repairing or servicing a motor vehicle may perform any service on a motor vehicle air conditioner (MVAC) involving the refrigerant for such air conditioner unless the person has been properly trained and certified as provided in 40 CFR 82.34 and 40 CFR 82.40, and properly uses equipment approved according to 40 CFR 82.36 and 40 CFR 82.38, and complies with 40 CFR 82.42;

- c. No person may sell or distribute, or offer for sale or distribution, any substance listed as a Class I or II substance in 40 CFR 82, Subpart A, Appendices A and B, except in compliance with 40 CFR 82.34(b), 40 CFR 82.42, and/or 40 CFR 82.166.
- d. No person maintaining, servicing, repairing, or disposing of appliances may knowingly vent or otherwise release into the atmosphere any Class I or II substance used as a refrigerant in such equipment and no other person may open appliances (except MVACs as defined in 40 CFR 82.152) for service, maintenance, or repair unless the person has been properly trained and certified according to 40 CFR 82.161 and unless the person uses equipment certified for that type of appliance according to 40 CFR 82.158 and unless the person observes the practices set forth in 40 CFR 82.156 and 40 CFR 82.166;
- e. No person may dispose of appliances (except small appliances, as defined in 40 CFR 82.152) without using equipment certified for that type of appliance according to 40 CFR 82.158 and without observing the practices set forth in 40 CFR 82.156 and 40 CFR 82.166;
- f. No person may recover refrigerant from small appliances, MVACs and MVAC-like appliances (as defined in 40 CFR 82.152), except in compliance with the requirements of 40 CFR 82 Subpart F;
- g. If the permittee manufactures, transforms, imports, or exports, a Class I or II substance (listed in 40 CFR 82, Subpart A, Appendices A and B), the permittee is subject to all requirements as specified in 40CFR82 Subpart A, Production and Consumption Controls. (Regulation 2.16, section 4.1.5)

Emission Unit U1: Combustion Turbine**U1 Applicable Regulations:**

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	Title	Applicable Sections
6.42	Reasonably Available Control Technology Requirements for Major Volatile Organic Compound and Nitrogen Oxides Emitting Facilities	1, 2, 3, 4, 5,
40 CFR 63, Subpart ZZZZ	National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines	63.6603, 6604, 6605, 6625, 6640, 6645, 6655

DISTRICT ONLY ENFORCEABLE REGULATIONS		
Regulation	Title	Applicable Sections
5.00	Definitions	1, 2
5.01	General Provisions	1 through 2
5.02	Adoption of National Emission Standards for Hazardous Air Pollutants	1, 3.95 and 4
5.14	Hazardous Air Pollutants and Source Categories	1, 2
5.20	Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant	1 through 6
5.21	Environmental Acceptability for Toxic Air Contaminants	1 through 5
5.22	Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant	1 through 5
5.23	Categories of Toxic Air Contaminants	1 through 6

U1 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E1	One (1) natural gas-fired simple cycle combustion turbine (GT1), rated output capacity 19,400 KW, make General Electric, model 5001LA, equipped with 300 bHP diesel cranking engine.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, 6.42 40 CFR 63, Subpart ZZZZ	N/A	S1

U1 Control Devices:

There is no control device associated with this unit.

U1 Specific Conditions**S1. Standards** (Regulation 2.16, section 4.1.1)**a. NO_x**

- i. The owner or operator shall not allow plantwide NO_x emissions to equal or exceed 100 tons during any twelve (12) consecutive month period. (LG&E letter dated 20 October 1998)(Regulation 6.42, Section 4.3.1) (See Comment 1)
- ii. The owner or operator shall not combust more than 612 MMcf of natural gas or 0.326 MMgal of diesel fuel, in the cranking engine, or any combination thereof, during any twelve (12) consecutive month period, that would allow NO_x emissions to exceed 100 tons during any twelve (12) consecutive month period. (Regulation 6.42, section 4.3.1) (See Comment 1)

b. TAC

The owner or operator shall not allow emissions of any TAC to exceed environmentally acceptable (EA) levels, whether specifically established by modeling or determined by the District to be de minimis. (Regulations 5.00 and 5.21) (See Comment 3)

c. HAP (40 CFR 63, Subpart ZZZZ for cranking engine)

- i. The owner or operator of an existing stationary RICE located at an area source of HAP emissions shall comply with the requirements Table 2(d) to this subpart: (40 CFR 63.6603(a))
 - 1) The owner or operator shall change the oil and filter every 500 hours of operation or annually, whichever comes first. The owner or operator has the option to utilize an oil analysis program as described in 40 CFR 63.6625(i) or (j) in order to extend the specified oil change requirement in Table 2d of this subpart. (40 CFR 63, Subpart ZZZZ, Table 2d.(4)(a))
 - 2) The owner or operator shall inspect the air cleaners every 1,000 hours of operation or annually, whichever comes first, and replace as necessary. (40 CFR 63. Subpart ZZZZ, Table 2d.(4)(b))
 - 3) The owner or operator shall inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. (40 CFR 63. Subpart ZZZZ, Table 2d(4)(c))

- ii. General requirements for complying with 40 CFR 63, Subpart ZZZZ:
 - 1) The owner or operator shall be in compliance with the emission limitations, operating limitations, and other requirements in this subpart that apply to the RICE at all times. (40 CFR 63.6605(a))
 - 2) At all times the owner or operator shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. (40 CFR 63.6605(b))
- iii. The owner or operator shall demonstrate continuous compliance with each emission limitation, operating limitation, and other applicable requirements in Table 2d to this subpart. See Specific Condition S1.c.ii. (40 CFR 63.6640(a))
- iv. The owner or operator shall minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup in Tables 1a, 2a, 2c and 2d to this subpart apply. (40 CFR 63.6625(h))
- v. Beginning January 1, 2015, the owner or operator shall use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted.
 - 1) Sulfur content: 15 parts per million (ppm) maximum for NR diesel fuel. (40 CFR 80.510(b)(1)(i))
 - 2) A minimum cetane index of 40; or (40 CFR 80.510(b)(2)(i))
 - 3) A maximum aromatic content of 35 volume percent. (40 CFR 80.510(b)(2)(ii))

S2. Monitoring and Record Keeping (Regulation 2.16, sections 4.1.9.1 and 4.1.9.2)

The owner or operator shall maintain the required records for a minimum of 5 years and make the records readily available to the District upon request.

a. **NO_x**

- i. The owner or operator shall maintain, monthly, records of the amount and type of fuel combusted at this site, when the equipment is operated, to demonstrate ongoing compliance with the annual limit for NO_x emissions.
- ii. The owner or operator shall monthly calculate monthly and 12 consecutive month total NO_x emissions from the combustion turbine utilizing AP-42, table 3.1-1, Emission Factors for Nitrogen Oxides from Stationary Gas Turbines, and the formula shown below or other formula approved by District:

$$E_{NO_x} = (0.32 \text{ lb NO}_x/\text{MMbtu})(1,020 \text{ btu/cf})(X)(1 \text{ ton}/2,000 \text{ lb})$$

Where:

E_{NO_x} = NO_x emissions (tons)

X = amount of natural gas (MMcf) combusted in turbine GT1

- iii. The owner or operator shall monthly calculate monthly and 12 consecutive month total NO_x emissions from the cranking engine utilizing AP-42, table 3.3-1, Emission Factors for Uncontrolled Gasoline and Diesel Industrial Engines (less than 600 hp), and the formula shown below or other formula approved by District:

$$E_{NO_x} = (4.41 \text{ lb NO}_x/\text{MMbtu})(139,000 \text{ btu/gal})(X)(1 \text{ ton}/2,000 \text{ lb})$$

Where:

E_{NO_x} = NO_x emissions (tons)

X = amount of diesel fuel (MMgal) combusted in cranking engine

- iv. As an alternative to using published AP-42, table 3.1-1, notes c and f, fuel heat content factors, the owner or operator may use the average yearly heat content based on actual data or vendor certified fuel data.
- v. The AP-42, table 3.1-1 emission factors may be converted to other natural gas heating values by multiplying the given emission factor by the ratio of the specified heating value to the average heating value, as stated in note b of AP-42, table 3.1-1.

b. **TAC**

- i. The owner or operator shall maintain records sufficient to demonstrate environmental acceptability, including, but not limited to MSDS, analysis of emissions, and/or modeling results.

- ii. The owner or operator shall re-evaluate the environmental acceptability and document the environmentally acceptable emissions if a new TAC is introduced or the content of a TAC in a raw material increases.
- c. **HAP** (40 CFR 63, Subpart ZZZZ for cranking engine)
- i. Monitoring, installation, collection, operation, and maintenance requirements: (40 CFR 63.6625)
 - 1) The owner or operator shall operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which shall provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. (40 CFR 63.6625(e))
 - 2) The owner or operator has the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis shall be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program shall at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator shall change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator shall change the oil within 2 business days or before commencing operation, whichever is later. The owner or operator shall keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program shall be part of the maintenance plan for the engine. (40 CFR 63.6625(i))
 - ii. Recordkeeping requirements: (40 CFR 63.6655)
 - 1) The owner or operator shall keep the following records that apply to your RICE: (40 CFR 63.6655(a))

- (a) A copy of each notification and report submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirement in 40 CFR 63.10(b)(2)(xiv). (40 CFR 63.6655(a)(1))
 - (b) Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment. (40 CFR 63.6655(a)(2))
 - (c) Records of performance tests (if stack test is required) and performance evaluations as required in 40 CFR 63.10(b)(2)(viii). (40 CFR 63.6655(a)(3))
 - (d) Records of all required maintenance performed on the air pollution control and monitoring equipment. (40 CFR 63.6655(a)(4))
 - (e) Records of actions taken during periods of malfunction to minimize emissions in accordance with 40 CFR 63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. (40 CFR 63.6655(a)(5))
- 2) The owner or operator shall keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan. (40 CFR 63.6655(e))

S3. Reporting (Regulation 2.16, section 4.1.9.3)

The owner or operator shall submit semi-annual compliance reports that include the information in this section.

a. NO_x

The owner or operator shall identify all periods of exceeding a NO_x emission standard during a semi-annual reporting period. The semi-annual compliance report shall include the following:

- i. Emission Unit ID number, Stack ID number, and/or Emission point ID number,
- ii. The beginning and ending date of the reporting period,

- iii. Identification of all periods during which a deviation occurred,
 - iv. A description, including the magnitude, of the deviation,
 - v. If known, the cause of the deviation, and
 - vi. Description of any corrective action taken for each deviation.
- b. **TAC**
- i. The owner or operator shall report any conditions that were inconsistent with those conditions analyzed in the most recent Environmental Acceptability Demonstration or a negative declaration stating that operations were within the conditions analyzed. This includes, but is not limited to, control device upset conditions.
 - ii. For any conditions outside the analysis, the owner or operator shall re-analyze to determine whether these conditions comply with the STAR program. Changes to the air dispersion modeling program or meteorological data used in the most recent Environmental Acceptability Demonstration do not trigger the requirement to re-analyze. (Regulation 5.21 sections 4.22 – 4.24)
 - iii. The owner or operator shall submit the re-evaluated EA demonstration to the District within 6 months of a change of a raw material.
- c. **HAP** (40 CFR 63, Subpart ZZZZ for cranking engine)
- i. The owner or operator shall report each instance in which you did not meet each emission limitation or operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you. These instances are deviations from the emission and operating limitations in this subpart. These deviations shall be reported according to the requirements in 40 CFR 63.6650. If you change your catalyst, you shall reestablish the values of the operating parameters measured during the initial performance test. When you reestablish the values of your operating parameters, you shall also conduct a performance test to demonstrate that you are meeting the required emission limitation applicable to your stationary RICE. (40 CFR 63.6640(b))
 - ii. The owner or operator shall also report each instance in which the applicable requirements of Table 8 to 40 CFR 63, Subpart ZZZZ were not met. (40 CFR 63.6640(e))

U1 Comments

1. A NO_x RACT Plan is not required for this plant since the source has a 100 tpy NO_x limit. On December 22, 2008, a NO_x Compliance Demonstration was performed using

emission factors from AP-42, Chapter 3.1 and 3.3 and the fuel consumption limits. It has been determined that the plant-wide NO_x emissions cannot exceed 100 tpy with the limits of 612 MMcf/yr for natural gas or 0.326 MMgal/yr for diesel fuel.

2. The cranking engine is subject to 40 CFR 63 Subpart ZZZZ, *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, because it involves a stationary reciprocating internal combustion engine (RICE) located at an area source of HAP emissions.
3. LG&E Zorn submitted TAC Environmental Acceptability Demonstration to the District on February 5, 2007, March 25, 2008, and April 3, 2012. It has been demonstrated that the uncontrolled TAC emissions for the natural gas-fire turbine and diesel cranking engine are de minimis.
4. The Risk Management Plan (RMP) was addressed by company's written response in letter of 1975, and is not required for this facility.
5. The term "cranking engine" in this permit is synonymous with the term "black start engine" as defined in 40 CFR 63.6675 of Regulation ZZZZ.

Permit Shield

The owner or operator is hereby granted a permit shield that shall apply as long as the owner or operator demonstrates ongoing compliance with all conditions of this permit. Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements of the regulations cited in this permit as of the date of issuance, pursuant to Regulation 2.16, section 4.6.1.

Off-Permit Documents

There are no off permit documents associated with this Title V permit.

Alternative Operating Scenario

The company requested no alternative operating scenario in its Title V application.

Insignificant Activities

Equipment	Quan.	PTE (tpy)	Regulation Basis
Fuel or Lubricating oils storage tanks with vapor pressure <10mm Hg @ 20 deg C	1	VOC < 0.005	Regulation 1.02, Appendix A
Emergency relief vents for boiler steam supply	1	0	Regulation 1.02, Appendix A
Storage reservoir with a capacity of 250 gallons or less (contain 50/50 glycol-water)	1	VOC < 0.0002	Regulation 1.02, Appendix A
Diesel or fuel storage tanks with annual turnover < 2X the capacity	1	VOC < 0.00004	Regulation 1.02, Appendix A
Emergency generators (See unit IA-EG)	N/A	N/A	Regulation 2.16, section 1.23

- 1) Insignificant Activities identified in District Regulation 1.02 Appendix A may be subject to size or production rate disclosure requirements.
- 2) Insignificant Activities identified in District Regulation 1.02 Appendix A shall comply with generally applicable requirements.
- 3) Activities identified in Regulation 1.02, Appendix A, may not require a permit and may be insignificant with regard to application disclosure requirements but may still have generally applicable requirements that continue to apply to the source and must be included in the permit.
- 4) Emissions from Insignificant Activities shall be reported in conjunction with the reporting of annual emissions of the facility as required by the District.
- 5) In lieu of recording annual throughputs and calculating actual annual emissions,

the owner or operator may elect to report the pollutant Potential To Emit (PTE) quantity listed in the Insignificant Activities table, as the annual emission for each piece of equipment.

- 6) The Insignificant Activities Table is correct as of the date the permit was proposed for review by U.S. EPA, Region 4.
- 7) The owner or operator shall submit an updated list of Insignificant Activities whenever changes in equipment located at the facility occur that cause changes to the plant wide emissions.

Emission Unit IA-EG: Emergency generators

IA-EG Applicable Regulations:

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	Title	Applicable Sections
40 CFR 63, Subpart ZZZZ	National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines	63.6603, 6604, 6605, 6625, 6640, 6645, 6655
40 CFR 60, Subpart IIII	Standards of Performance for Stationary Compression Ignition Internal Combustion Engines	60.4200 - 4219

IA-EG Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E-EG	Emergency diesel generators that installed after July 11, 2005 and manufactured after April 1, 2006, with a maximum engine power less than or equal to 500 HP and located at an area source of HAP.	40 CFR 63, Subpart ZZZZ, 40 CFR 60, Subpart IIII	N/A	N/A

IA-EG Control Devices:

There are no control devices associated with this equipment.

IA-EG Specific Conditions

S1. Standards (Regulation 2.16, section 4.1.1)

a. Unit operation

- i. The owner or operator of a pre-2007 model year emergency stationary CI ICE with a displacement of less than 10 liters per cylinder that are not fire pump engines shall comply with the emission standards in Table 1 to this subpart. (40 CFR 60.4205(a)) (See Table 1)

Table 1 Emission standards for Pre-2007 model (40 CFR 60, Subpart IIII)

Maximum engine power	Emission standards in g/KW-hr (g/HP-hr)				
	NMHC + NO _x	HC	NO _x	CO	PM
kW < 8 (hp < 11)	10.5 (7.8)			8.0 (6.0)	1.0 (0.75)
8 ≤ kW < 19 (11 ≤ hp < 25)	9.5 (7.1)			6.6 (4.9)	0.80 (0.60)
19 ≤ kW < 37 (25 ≤ hp < 50)	9.5 (7.1)			5.5 (4.1)	0.80 (0.60)
37 ≤ kW < 56 (50 ≤ hp < 75)			9.2 (6.9)		
56 ≤ kW < 75 (75 ≤ hp < 100)			9.2 (6.9)		
75 ≤ kW < 130 (100 ≤ hp < 175)			9.2 (6.9)		
130 ≤ kW < 225 (175 ≤ hp < 300)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
225 ≤ kW < 375 (300 ≤ hp < 500)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)

- ii. The owner or operator of a 2007 model year and later emergency stationary CI ICE with a displacement of less than 30 liters per cylinder that is not a fire pump engine shall comply with the emission standards (Table 2) obtained from 40 CFR 89.112, Table 1 for Tier 1 – 3 engines and 40 CFR 1039.101, Table 1 for Tier 4 engines, or the family emission limits (Table 3) obtained from 40 CFR 89.112, Table 2 for Tier 1 – 3 engines and 40 CFR 1039.101, Table 2 for Tier 4 engines, and smoke emission standards (Table 4) obtained from 40 CFR 89.113(a) for Tier 1-3 engines and 40 CFR 1039.105(b) for Tier 4 engines, for the same model year and maximum engine power for their 2007 model year and later emergency stationary CI ICE. (40 CFR 60.4205(b)) (40 CFR 60.4202)

Table 2 EPA Tier 1-4 Nonroad Diesel Engine Emission Standards^a, g/kW-hr (g/bhp-hr)

Maximum Engine Power	Tier	Model Year ^b	NO _x	HC	NMHC +NO _x	CO	PM
kW < 8 (hp < 11)	Tier 2/Tier 3	2005	-	-	7.5 (5.6)	8.0 (6.0)	0.8 (0.6)
	Tier 4	2008	-	-	7.5 (5.6)	8.0 (6.0)	0.4 ^c (0.3)
8 ≤ kW < 19 (11 ≤ hp < 25)	Tier 2/Tier 3	2005	-	-	7.5 (5.6)	6.6 (4.9)	0.8 (0.6)
	Tier 4	2008	-	-	7.5 (5.6)	6.6 (4.9)	0.4 (0.3)
19 ≤ kW < 37 (25 ≤ hp < 50)	Tier 2/Tier 3	2004	-	-	7.5 (5.6)	5.5 (4.1)	0.6 (0.45)
	Tier 4	2008	-	-	7.5 (5.6)	5.5 (4.1)	0.3 (0.22)
		2013	-	-	4.7 (3.5)	5.5 (4.1)	0.03 (0.022)
37 ≤ kW < 56 (50 ≤ hp < 75)	Tier 2	2004	-	-	7.5 (5.6)	5.0 (3.7)	0.4 (0.3)
	Tier 3	2008	-	-	4.7 (3.5)	5.0 (3.7)	0.3 ^d (0.22)
	Tier 4	2013	-	-	4.7 (3.5)	5.0 (3.7)	0.03 (0.022)
56 ≤ kW < 75 (75 ≤ hp < 100)	Tier 2	2004	-	-	7.5 (5.6)	5.0 (3.7)	0.4 (0.3)
	Tier 3	2008	-	-	4.7 (3.5)	5.0 (3.7)	0.4 (0.3)
	Tier 4	2012-2014 ^e	0.4 (0.3)	0.19 (0.14)	-	5.0 (3.7)	0.02 (0.015)
75 ≤ kW < 130 (100 ≤ hp < 175)	Tier 2	2003	-	-	6.6 (4.9)	5.0 (3.7)	0.3 (0.2)
	Tier 3	2007	-	-	4.0 (3.0)	5.0 (3.7)	0.3 (0.2)
	Tier 4	2012-2014 ^e	0.4 (0.3)	0.19 (0.14)	-	5.0 (3.7)	0.02 (0.015)
130 ≤ kW < 225 (175 ≤ hp < 300)	Tier 2	2003	-	-	6.6 (4.9)	3.5 (2.6)	0.2 (0.15)
	Tier 3	2006	-	-	4.0 (3.0)	3.5 (2.6)	0.2 (0.15)
	Tier 4	2011-2014 ^f	0.4 (0.3)	0.19 (0.14)	-	3.5 (2.6)	0.02 (0.015)
225 ≤ kW ≤ 375 (300 ≤ hp ≤ 500)	Tier 3	2006	-	-	4.0 (3.0)	3.5 (2.6)	0.2 (0.15)
	Tier 4	2011-2014 ^f	0.4 (0.3)	0.19 (0.14)	-	3.5 (2.6)	0.02 (0.015)

^a Emission standards from 40 CFR 89.112 Table 1 for Tier 1-3 engines and 40 CFR 1039.101 Table 1 for Tier 4 engines.

^b The model years listed indicate the model years for which the specified tier of limits take effect.

^c Hand-startable, air-cooled, DI engines may be certified to Tier 2 standards through 2009 and to an optional PM standard of 0.6 g/kW-hr starting in 2010

^d 0.4 g/kWh (Tier 2) if manufacturer complies with the 0.03 g/kW-hr standard from 2012

^e PM/CO: full compliance from 2012; NO_x/HC: Option 1 (if banked Tier 2 credits used) – 50% engines shall comply in 2012-2013; Option 2 (if no Tier 2 credits claimed) – 25% engines shall comply in 2012-2014, with full compliance from 2014.12.31

^f PM/CO: full compliance from 2011; NO_x/HC: 50% engines shall comply in 2011-2013

Table 3 EPA Tier 1-4 Nonroad Diesel Engine Family Emission Limits, g/kW-hr (g/bhp-hr)

Maximum Engine Power	Tier	Model Year ^a	NO _x	NMHC +NO _x	PM
kW < 8 (hp < 11)	Tier 2/Tier 3	2005	-	10.5 (7.8)	1.0 (0.7)
	Tier 4	-	-	10.5 (7.8)	0.8 (0.6)
8 ≤ kW < 19 (11 ≤ hp < 25)	Tier 2/Tier 3	2005	-	9.8 (7.3)	0.8 (0.6)
	Tier 4	-	-	9.5 (7.1)	0.8 (0.6)

Maximum Engine Power	Tier	Model Year ^a	NO _x	NMHC +NO _x	PM
19 ≤ kW < 37 (25 ≤ hp < 50)	Tier 2/Tier 3	2004	-	9.5 (7.1)	0.8 (0.6)
	Tier 4	-	-	7.5 (5.6)	0.05 (0.037)
37 ≤ kW < 56 (50 ≤ hp < 75)	Tier 2	2004	-	11.5 (8.6)	1.2 (0.9)
	Tier 3	2008	-	7.5 (5.6)	1.2 (0.9)
	Tier 4	-	-	7.5 (5.6)	0.05 (0.037)
56 ≤ kW < 75 (75 ≤ hp < 100)	Tier 2	2004	-	11.5 (8.6)	1.2 (0.9)
	Tier 3	2008	-	7.5 (5.6)	1.2 (0.9)
	Tier 4	-	0.8 (0.6)	-	0.04 (0.03)
75 ≤ kW < 130 (100 ≤ hp < 175)	Tier 2	2003	-	11.5 (8.6)	1.2 (0.9)
	Tier 3	2007	-	6.6 (4.9)	1.2 (0.9)
	Tier 4	-	0.8 (0.6)	-	0.04 (0.03)
130 ≤ kW < 225 (175 ≤ hp < 300)	Tier 2	2003	-	10.5 (7.8)	0.54 (0.04)
	Tier 3	2006	-	6.6 (4.9)	0.54 (0.4)
	Tier 4	-	0.8 (0.6)	-	0.04 (0.03)
225 ≤ kW ≤ 375 (300 ≤ hp ≤ 500)	Tier 3	2006	-	6.4 (4.8)	0.54 (0.4)
	Tier 4	-	0.8 (0.6)	-	0.04 (0.03)

Table 4 EPA Tier 1-4 Smoke Emission Standards

Maximum Engine Power	Tier	Smoke Emission Standards
0 < kW ≤ 375 (0 < hp ≤ 500)	Tier 1	(1) 20% during the acceleration mode (2) 15% during the lugging mode; or (3) 50% during the peaks in either the acceleration or lugging modes.
	Tier 2	
	Tier 3	
	Tier 4	

- iii. The owner or operator of an emergency stationary CI ICE with a displacement of less than 30 liters per cylinder who conducts performance tests in-use shall meet the NTE standards as indicated in the [Testing](#) section of this permit. (40 CFR 60.4205(e))
- iv. The owner or operator of any modified or reconstructed emergency stationary CI ICE subject to this subpart shall meet the emission standards applicable to the model year, maximum engine power, and displacement of the modified or reconstructed CI ICE that are specified in [Table 2](#), [Table 3](#), or the [Testing](#) section of this permit. (40 CFR 60.4205(f))
- v. The owner or operator that is required comply with the emission standards specified in 40 CFR 60, Subpart IIII shall do all of the following: (40 CFR 60.4211(a))

- 1) Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions; (40 CFR 60.4211(a)(1))
 - 2) Change only those emission-related settings that are permitted by the manufacturer; (40 CFR 60.4211(a)(2))
- vi. For a pre-2007 model year stationary CI internal combustion engine that shall comply with the emission standards specified in Table 1, the owner or operator shall demonstrate compliance according to one of the methods specified in paragraphs (b)(1) through (5) of this section. (40 CFR 60.4211(b))
- 1) Purchasing an engine certified according to 40 CFR part 89 or 40 CFR part 94, as applicable, for the same model year and maximum engine power. The engine shall be installed and configured according to the manufacturer's specifications. (40 CFR 60.4211(b)(1))
 - 2) Keeping records of performance test results for each pollutant for a test conducted on a similar engine. The test shall have been conducted using the same methods specified in this subpart and these methods shall have been followed correctly. (40 CFR 60.4211(b)(2))
 - 3) Keeping records of engine manufacturer data indicating compliance with the standards. (40 CFR 60.4211(b)(3))
 - 4) Keeping records of control device vendor data indicating compliance with the standards. (40 CFR 60.4211(b)(4))
 - 5) Conducting an initial performance test to demonstrate compliance with the emission standards according to the requirements specified in the Testing section of this permit, as applicable. (40 CFR 60.4211(b)(5))
- vii. For a 2007 model year and later stationary CI internal combustion engine that shall comply with the emission standards specified in Table 2 and Table 3, the owner or operator shall purchase an engine certified to the emission standards in Table 2 and Table 3, as applicable for the same model year and maximum engine power. The engine shall be installed and configured according to the manufacturer's specifications. (40 CFR 60.4211(c))
- viii. For a modified or reconstructed stationary CI internal combustion engine that shall comply with the emission standards specified in Table 2, Table 3, or the Testing section of this permit, the owner or operator shall

demonstrate compliance according to one of the methods specified in paragraphs (e)(1) or (2) of this section. (40 CFR 60.4211(e))

- 1) Purchasing, or otherwise owning or operating, an engine certified to the emission standards in [Table 2](#), [Table 3](#), or the [Testing](#) section of this permit, as applicable. (40 CFR 60.4211(e)(1))
 - 2) Conducting a performance test to demonstrate initial compliance with the emission standards according to the requirements specified in the [Testing](#) section of this permit, as appropriate. The test shall be conducted within 60 days after the engine commences operation after the modification or reconstruction. (40 CFR 60.4211(e)(2))
- ix. In order for the engine to be considered an emergency stationary ICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (3) of this section, is prohibited. If the owner or operator does not operate the engine according to the requirements below, the engine will not be considered an emergency engine under this subpart and shall meet all requirements for non-emergency engines. (40 CFR 60.4211(f))
- 1) There is no time limit on the use of emergency stationary ICE in emergency situations. (40 CFR 60.4211(f)(1))
 - 2) The owner or operator may operate the emergency stationary ICE for any combination of the purposes specified in [60 CFR 60.4211\(f\)\(2\)\(i\)](#) through [\(iii\)](#) for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by [60 CFR 60.4211\(f\)\(3\)](#) counts as part of the 100 hours per calendar year allowed by this paragraph. (40 CFR 60.4211(f)(2)).
 - (a) 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. (40 CFR 60.4211(f)(2)(i))

- (b) 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 40 CFR 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. (40 CFR 60.4211(f)(2)(ii))
 - (c) 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. (40 CFR 60.4211(f)(2)(iii))
- 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 40 CFR 60.4211(f)(2). Except as provided in 40 CFR 60.4211(f)(3)(i), the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity. (40 CFR 60.4211(f)(3))
- (a) 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: (40 CFR 60.4211(f)(3)(i))
 - (i) The engine is dispatched by the local balancing authority or local transmission and distribution system operator; (40 CFR 60.4211(f)(3)(i)(A))
 - (ii) 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. (40 CFR

60.4211(f)(3)(i)(B))

- (iii) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines. (40 CFR 60.4211(f)(3)(i)(C))
- (iv) The power is provided only to the facility itself or to support the local transmission and distribution system. (40 CFR 60.4211(f)(3)(i)(D))
- (v) 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. (40 CFR 60.4211(f)(3)(i)(E))

b. Fuel requirements

Beginning October 1, 2010, the owner or operator of a stationary CI ICE subject to this subpart with a displacement of less than 30 liters per cylinder that uses diesel fuel shall use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted: (40 CFR 60.4207(b))

- 1) Sulfur content: 15 parts per million (ppm) maximum for NR diesel fuel. (40 CFR 80.510(b)(1)(i))
- 2) A minimum cetane index of 40; or (40 CFR 80.510(b)(2)(i))
- 3) A maximum aromatic content of 35 volume percent. (40 CFR 80.510(b)(2)(ii))

S2. Monitoring and Record Keeping (Regulation 2.16, sections 4.1.9.1 and 4.1.9.2)

The owner or operator shall maintain the required records for a minimum of 5 years and make the records readily available to the District upon request.

a. Unit Operation

- i. The owner or operator of an emergency stationary CI internal combustion engine that does not meet the standards applicable to non-emergency

engines shall install a non-resettable hour meter prior to startup of the engine. (40 CFR 60.4209(a))

- ii. The owner or operator is not required to submit an initial notification. Starting with the model years in Table 5 to this subpart, if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the owner or operator shall keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner shall record the time of operation of the engine and the reason the engine was in operation during that time. (40 CFR 60.4214(b))

Table 5 Labeling and Recordkeeping Requirements for New Stationary Emergency Engines

Engine Power	Starting Model Year
19 ≤ kW < 56 (25 ≤ hp < 75)	2013
56 ≤ kW < 130 (75 ≤ hp < 175)	2012
130 ≤ kW ≤ 375 (175 ≤ hp ≤ 500)	2011

b. Fuel requirements

The owner or operator shall maintain records of the fuel MSDS sheets and receipts showing dates, amounts of fuel purchased, sulfur content of fuel purchased and supplier’s name and address, to show compliance with Specific Condition S1.b.

S3. Reporting (Regulation 2.16, section 4.1.9.3)

The owner or operator shall submit compliance reports that include the information in this section.

a. Unit Operation

- i. The owner or operator is not required to submit an initial notification. (40 CFR 60.4214(b))
- ii. The owner or operator shall identify all periods of exceeding the hour limits specified in Specific Condition S1.a.ix during the reporting period. The compliance report shall include the following:
 - 1) Identification of all periods during which a deviation occurred;
 - 2) A description, including the magnitude, of the deviation;
 - 3) If known, the cause of the deviation;

- 4) A description of all corrective actions taken to abate the deviation; and
 - 5) If no deviations occur during a reporting period, the report shall contain a negative declaration.
- iii. For an emergency stationary CI ICE with a maximum engine power more than 100 HP that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in S1.a.ix.2)(b) and S1.a.ix.2)(c), or that operates for the purposes specified in S1.a.ix.3)(a), the owner or operator shall submit an annual report according to the requirements in the following paragraphs: (40 CFR 60.4214(d))
- 1) The report shall contain the following information: (40 CFR 60.4214(d)(1))
 - (a) Company name and address where the engine is located. (40 CFR 60.4214(d)(1)(i))
 - (b) Date of the report and beginning and ending dates of the reporting period. (40 CFR 60.4214(d)(1)(ii))
 - (c) Engine site rating and model year. (40 CFR 60.4214(d)(1)(iii))
 - (d) Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place. (40 CFR 60.4214(d)(1)(iv))
 - (e) Hours operated for the purposes specified in 40 CFR 60.4211(f)(2)(ii) and (iii), including the date, start time, and end time for engine operation for the purposes specified in 40 CFR 60.4211(f)(2)(ii) and (iii). (40 CFR 60.4214(d)(1)(v))
 - (f) Number of hours the engine is contractually obligated to be available for the purposes specified in 40 CFR 60.4211(f)(2)(ii) and (iii). (40 CFR 60.4214(d)(1)(vi))
 - (g) Hours spent for operation for the purposes specified in 40 CFR 60.4211(f)(3)(i), including the date, start time, and end time for engine operation for the purposes specified in 40 CFR 60.4211(f)(3)(i). The report shall also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine. (40 CFR 60.4214(d)(1)(vii))

- 2) The first report shall cover the calendar year 2015 and shall be submitted no later than March 31, 2016. Subsequent reports for each calendar year shall be submitted as required by your operating permit. (40 CFR 60.4214(d)(2))
- 3) The report shall 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 shall be submitted to the Administrator at the appropriate address listed in 40 CFR 60.4. (40 CFR 60.4214(d)(3))

b. Fuel requirements

There are no routine compliance reporting requirements for this equipment.

S4. Testing (Regulation 2.16, section 4.1.9.3)

a. Testing requirements (40 CFR 60, Subpart IIII)

The owner or operator of stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests pursuant to this subpart shall do so according to the following paragraphs: (40 CFR 60.4212)

- i. The performance test shall be conducted according to the in-use testing procedures in 40 CFR part 1039, subpart F, for stationary CI ICE with a displacement of less than 10 liters per cylinder, and according to 40 CFR part 1042, subpart F, for stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder. (40 CFR 60.4212(a))
- ii. Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR part 1039 shall not exceed the not-to-exceed (NTE) standards for the same model year and maximum engine power as required in 40 CFR 1039.101(e) and 40 CFR 1039.102(g)(1), except as specified in 40 CFR 1039.104(d). This requirement starts when NTE requirements take effect for nonroad diesel engines under 40 CFR part 1039. (40 CFR 60.4212(b))
- iii. Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in Table 2 or Table 3, as applicable, shall not exceed the NTE numerical requirements, rounded to the same number of decimal places as the applicable standard in Table 2

or Table 3, determined from the following equation: (40 CFR 60.4212(c))

$$\text{NTE requirement for each pollutant} = (1.25) \times (\text{STD}) \quad (\text{Eq. 1})$$

Where:

STD = The standard specified for that pollutant in Table 2 or Table 3.

Alternatively, stationary CI ICE that are complying with the emission standards for new CI engines in Table 2 or Table 3 may follow the testing procedures specified in 40 CFR 60.4213 of this subpart, as appropriate.

- iv. Exhaust emissions from stationary CI ICE that are complying with the emission standards for pre-2007 model year engines in Table 1 shall not exceed the NTE numerical requirements, rounded to the same number of decimal places as the applicable standard in Table 1, determined from the following equation: (40 CFR 60.4212(d))

Where:

STD = The standard specified for that pollutant in Table 1.

Alternatively, stationary CI ICE that are complying with the emission standards for pre-2007 model year engines in Table 1 may follow the testing procedures specified in 40 CFR 60.4213, as appropriate.

- v. Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR part 1042 shall not exceed the NTE standards for the same model year and maximum engine power as required in 40 CFR 1042.101(c). (40 CFR 60.4212(e))

b. General testing requirements

The owner or operator shall construct all equipment in such a manner that the following testing requirements can be performed.

- i. The test shall be performed at 90% or higher of maximum capacity, or allowable/permitted capacity, or at a level of capacity which results in the greatest emissions and is representative of the operations. Failure to perform the test, at maximum capacity, allowable/permitted capacity, or at a level of capacity which resulted in the greatest emissions, may necessitate a re-test or necessitate a revision of the allowable/permitted capacity of the process equipment depending upon the difference between the testing results and the limit.
- ii. The owner or operator shall submit written compliance test plans (protocol) for the test. They shall include the EPA test methods that will be used for compliance testing, the process operating parameters that will

be monitored during the performance test, and the control device performance indicators (e.g. pressure drop, minimum combustion chamber temperature) that will be monitored during the performance test. The compliance test plans shall be furnished to the District at least 30 days prior to the actual date of the performance test. Attached to the permit is a [Protocol Checklist](#) for Performance Test for the information to be submitted in the protocol.

- iii. The owner or operator shall be responsible for obtaining and analyzing audit samples when the EPA Reference Method is used to analyze samples to demonstrate compliance with the source's emission regulation. The audit samples shall be available for verification by the District during the onsite testing. (See Comment 3)
- iv. The owner or operator shall provide the District at least 10 days prior notice of any performance test to afford the District the opportunity to have an observer present.
- v. The owner or operator shall furnish the District with a written report of the results of the performance test within 60 days following the actual date of completion of the performance test.

IA-EG Comment

1. This unit is is subject to 40 CFR 63, Subpart ZZZZ, *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, because it involves a stationary reciprocating internal combustion engine (RICE) located at a major source of HAP emissions. The proposed new stationary RICE meets the definition in 40 CFR 63.6675 of an emergency stationary RICE, which, per 40 CFR 63.6590(b)(1)(i), does not have to meet the requirements of 40 CFR 63 Subpart ZZZZ and of 40 CFR 63 Subpart A.
2. The associated storage tank for diesel fuel is exempt from District permitting requirements in accordance with Regulation 1.02, section 3.9.2.
3. Per an EPA rule change (["Restructuring of the Stationary Source Audit Program." Federal Register 75:176 \(September 13, 2010\) pp 55636-55657](#)), sources became responsible for obtaining the audit samples directly from accredited audit sample suppliers, not the regulatory agencies.
4. Potential emissions for this unit are greatest for nitrogen oxides (NO_x). Based on AP-42 Emission Factors and 500 hours per year for an emergency generator, as defined by EPA, the potential NO_x emission for this unit is less than 5 tons per year.
5. This insignificant emission unit allows the companies to install emergency engines that meet the description without submitting construction applications.

Protocol Checklist for a Performance Test

A completed protocol should include the following information:

- 1. Facility name, location, and ID #;
- 2. Responsible Official and environmental contact names;
- 3. Permit numbers that are requiring the test to be conducted;
- 4. Test methods to be used (i.e. EPA Method 1, 2, 3, 4, and 5);
- 5. Alternative test methods or description of modifications to the test methods to be used;
- 6. Purpose of the test including equipment and pollutant to be tested; the purpose may be described in the permit that requires the test to be conducted or may be to show compliance with a federal regulation or emission standard;
- 7. Tentative test dates (These may change but the District will need final notice at least 10 days in advance of the actual test dates in order to arrange for observation.);
- 8. Maximum rated production capacity of the system;
- 9. Production-rate goal planned during the performance test for demonstration of compliance (if appropriate, based on limits);
- 10. Method to be used for determining rate of production during the performance test;
- 11. Method to be used for determining rate of production during subsequent operations of the process equipment to demonstrate compliance;
- 12. Description of normal operation cycles;
- 13. Discussion of operating conditions that tend to cause worse case emissions; it is especially important to clarify this if worst case emissions do not come from the maximum production rate;
- 14. Process flow diagram;
- 15. The type and manufacturer of the control equipment, if any;
- 16. The control equipment (baghouse, scrubber, condenser, etc.) parameter to be monitored and recorded during the performance test. Note that this data will be used to ensure representative operation during subsequent operations. These parameters can include pressure drops, flow rates, pH, and temperature. The values achieved during the test may be required during subsequent operations to describe what pressure drops, etcetera, are indicative of good operating performance; and
- 17. How quality assurance and accuracy of the data will be maintained, including;
 - Sample identification and chain-of-custody procedures
 - If audit samples are required for this test method, audit sample provider and number of audit samples to be used
- 18. Pipe, duct, stack, or flue diameter to be tested;
- 19. Distances from the testing sample ports to the nearest upstream and downstream flow disturbances such as bends, valves, constrictions, expansions, and exit points for outlet and additionally for inlet;
- 20. Determine number of traverse points to be tested for outlet and additionally for inlet if required using Appendix A-1 to 40 CFR Part 60;
 - Method 1 if stack diameter is >12"
 - Method 1a if stack diameter is greater than or equal to 4" and less than 12"
 - Alternate method of determination for <4"
 - If a sample location at least two stack or duct diameters downstream and half a diameter upstream from any flow disturbance is not available then an alternative

procedure is available for determining the acceptability of a measurement location. This procedure described in Method 1, Section 11.5 allows for the determination of gas flow angles at the sampling points and comparison of the measured results with acceptability criteria.

- 21. The Stack Test Review fee shall be submitted with each stack test protocol.