



Louisville Metro Air Pollution Control District
701 West Ormsby Avenue, Suite 303
Louisville, Kentucky 40203-3137



Title V Operating Permit

Permit No.: O-1248-18-V (R1)

Plant ID: 1248

Effective Date: 12/24/2018

Expiration Date: 12/31/2023

Revision Date: 08/13/2019

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:

Source: Zorn Generating Station
3001 Upper River Road
Louisville, KY 40207

Owner: Louisville Gas & Electric Company
220 W. Main Street
Louisville, KY 40202

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 months and no later than six months prior to the expiration date.

Application No.: See **Application and Related Documents** table.

Administratively Complete Date: 09/04/2018

Public Notice Date: 11/08/2018

Proposed Permit Date: 11/08/2018

Permit writer: Aaron DeWitt

A handwritten signature in blue ink, appearing to read "Matt K.", written over a white background.

Air Pollution Control Officer
8/13/2019

Table of Contents

Permit Revisions and Changes.....	3
Construction Permit Summary.....	3
Application and Related Documents	3
Abbreviations and Acronyms	4
Preamble	5
General Conditions	6
Emission Unit U1: Combustion Turbines.....	14
Applicable Regulations.....	14
Equipment.....	14
Control Devices	15
U1 Specific Conditions.....	16
S1. Standards.....	16
S2. Monitoring and Record Keeping	22
S3. Reporting.....	25
Permit Shield.....	27
Off-Permit Documents.....	27
Alternative Operating Scenario.....	27
Insignificant Activities.....	27
Fee Comment	28
Attachment A - Calculation Methodology and Emission Factors	29
Attachment B – Determination of Benchmark Ambient Concentration (BAC).....	35

Permit Revisions and Changes

Permit No.	Public Notice Date	Issue Date	Change Type	Description/Scope
131-97-TV	10/17/1999	12/22/1999	Initial	Initial Permit Issuance
131-97-TV (R1)	NA	02/10/2002	Admin	Corrected expiration date to 12/17/2004
131-97-TV (R2)	03/25/2009	07/15/2009	Renewal	Renewal, Corrected usage limits for diesel fuel and natural gas, Additional Ros
131-97-TV (R3)	03/06/2014	04/22/2014	Renewal	Renewal
O-1248-18-V	11/08/2018	12/24/2018	Renewal	Standard Renewal, revised permit number from 131-97-TV (R3) to O-1248-18-V, and removed superfluous emergency generator language (IA-EG)
O-1248-18-V (R1)	NA	08/13/2019	Admin.	Add C-1248-1000-19-V to permit

Construction Permit Summary

Permit No.	Issue Date	Description
C-1248-1000-19-V	06/11/2019	U1-E2: One (1) natural gas compressor used to stabilize fuel pressure for turbine GT1, equipped with one (1) natural gas engine

Application and Related Documents

Document Number	Date	Description
94021	08/30/2018 09/04/2018	Title V renewal application administrative completeness review and approval
94862	10/11/2018 10/26/2018	Pre-draft permit sent to company for informal review; Company comments on informal draft
97693	03/22/2019	Application Construction 100a and Payment 1248
97703	03/25/2019	Application question
97786	03/28/2019	Approved Construction PTE for Ng Compressor Id 1248
97871	04/03/2019	Construction Compressor
97900	04/03/2019	Re_Construction Compressor

Abbreviations and Acronyms

AP-42	- AP-42, <i>Compilation of Air Pollutant Emission Factors, published by U.S.EPA</i>
APCD	- Louisville Metro Air Pollution Control District
BAC	- Benchmark Ambient Concentration
BACT	- Best Available Control Technology
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
Hg	- Mercury
hr	- Hour
in.	- Inches
lbs	- Pounds
l	- Liter
LMAPCD	- Louisville Metro Air Pollution Control District
mmHg	- Millimeters of mercury column height
MM	- Million
(M)SDS	- (Material) Safety Data Sheet
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
RACT	- Reasonably Available Control Technology
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 (the Act) 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 or APCD) 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 that 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 owner or operator's Title V permit may include a current table of "insignificant activities."

Insignificant activities are defined in District Regulation 2.16, section 1.23, as of the date the permit was proposed for review by U.S. EPA, Region 4.

Insignificant activities identified in District Regulation 1.02, section 1.38, and 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, section 1.38, and Appendix A shall comply with generally applicable requirements as required by Regulation 2.16, section 4.1.9.4.

General Conditions

G1. **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]

G2. **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 (Form 9400-O) directly to the EPA and to the District, as set forth in Regulation 2.16, section 4.3.5.4, at the following addresses:

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

*Air Pollution Control District
701 W. Ormsby Avenue, Suite 303
Louisville, Kentucky 40203-3137*

The owner or operator shall submit the Compliance Certification on or before April 15 of each year, or other such due date as required by another applicable regulation.

G3. **Compliance Schedule** - The owner or operator shall submit a schedule of compliance for each emission unit that is not in compliance with all applicable requirements. A compliance schedule must meet the requirements of Regulation 2.16, section 3.5.9.5. 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.

G4. **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, they shall, upon discovery of the occurrence, promptly submit the supplementary facts or corrected information in accordance with Regulation 2.16, section 3.4.

G5. **Emergency Provision**

- a. An emergency shall constitute an affirmative defense to an enforcement action brought for noncompliance with technology-based emission limitations if the conditions in Regulation

2.16 are met. 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; and
 - 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]

G6. **Emission Fees Payment Requirements** - The owner or operator shall pay annual emission fees in accordance with Regulation 2.08, section 1.3. 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 1.2.5]

G7. **Emission Offset Requirements** - The owner or operator shall comply with the requirements of Regulation 2.04.

G8. **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]

G9. **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]

G10. **Hazardous Air Pollutants and Sources Categories** - The owner or operator shall comply with the applicable requirements of Regulations 5.02 and 5.14.

G11. **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 at the address shown in General Condition 35.b. [Regulation 2.07, section 10.2]

G12. **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]

G13. **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: [Regulation 2.16, section 4.3.2]

- 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.

G14. **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 submitted by the 60th day following the end of each reporting period, unless specified elsewhere in this permit. 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.

- G15. **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]
- G16. **Operational Flexibility** - The owner or operator may make changes without permit revision in accordance with Regulation 2.16, section 5.8.
- G17. **Permit Amendments (Administrative)** - This permit can be administratively amended by the District in accordance with Regulation 2.16, section 5.4.
- G18. **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.
- G19. **Permit Duration** - This permit is issued for a fixed term of 5 years, in accordance with Regulation 2.16, section 4.1.8.3.
- G20. **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.
- G21. **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]
- G22. **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.
- G23. **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.
- G24. **Permit Termination and Revocation 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 through 5.11.6. For purposes of section 5.11.1, 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.

- G25. **Permit Shield** - The permit shield shall apply in accordance with Regulation 2.16, section 4.6.1.
- G26. **Prevention of Significant Deterioration of Air Quality** - The owner or operator shall comply with the requirements of Regulation 2.05.
- G27. **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.
- G28. **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.
- G29. **Reopening for Cause** - This permit shall be reopened and revised by the District in accordance with Regulation 2.16, section 5.9.
- G30. **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.
- G31. **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.
- G32. **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]
- G33. **Stack Height Considerations** - The owner or operator shall comply with the requirements of Regulation 2.10.
- G34. **Startups, Shutdowns, and Upset Conditions Requirements** - The owner or operator shall comply with the requirements of Regulation 1.07.
- G35. **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, 3.3, 3.4, 3.5, 4.1.13.6, 5.8.5 and 5.12 shall be submitted to:
- Air Pollution Control District
701 West Ormsby Avenue, Suite 303
Louisville, Kentucky 40203-3137*
- b. Documents that 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:
- US EPA - Region IV
APTMD - 12th floor
Atlanta Federal Center
61 Forsyth Street
Atlanta, GA 30303-3104*

- G36. **Other Applicable Regulations** - The owner or operator shall comply with all applicable requirements of the following:

Regulation	Title
1.01	General Application of Regulations and Standards
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, Emission Inventory Development and Reporting
1.07	Excess Emissions During Startups, Shutdowns, and Upset Conditions
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
1.18	Rule Effectiveness
1.19	Administrative Hearings
2.01	General Application (Permit Requirements)
2.02	Air Pollution Regulation Requirements and Exemptions
2.03	Authorization to Construct or Operate; Demolition/Renovation Notices and Permit Requirements
2.04	Construction or Modification of Major Sources in or Impacting Upon Non-Attainment Areas (Emission Offset Requirements)
2.05	Prevention of Significant Deterioration
2.06	Permit Requirements – Other Sources
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 Modification, Revocation, or Suspension
2.10	Stack Height Considerations
2.11	Air Quality Model Usage
3.01	Ambient Air Quality Standards
4.01	General Provisions for Emergency Episodes
4.02	Episode Criteria
4.03	General Abatement Requirements
4.04	Particulate and Sulfur Dioxide Reduction Requirements
4.05	Hydrocarbon and Nitrogen Oxides Reduction Requirements
4.06	Carbon Monoxide Reduction 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
2.16	Title V Operating Permits
5.00	Definitions
5.01	General Provisions
5.02	Adoption and Incorporation by Reference 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
7.02	Adoption and Incorporation by Reference of Federal New Source Performance Standards

G37. **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 that normally contains fifty 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 40 CFR 82 Subpart A, Production and Consumption Controls. [Regulation 2.16, section 4.1.5]

Emission Unit U1: Combustion Turbines

Applicable Regulations

FEDERALLY ENFORCEABLE REGULATIONS^{1,2,3,4}		
Regulation	Title	Applicable Sections
6.42	Reasonable Available Control Technology Requirements for Major Volatile Organic Compound and Nitrogen Oxides Emitting Facilities	1.2
40 CFR 63 Subpart <i>ZZZZ</i>	National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines	40 CFR 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
5.20	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
STAR regulations are 5.00, 5.01, 5.20, 5.21, 5.22, and 5.23		

Equipment

¹ 40 CFR 60 Subpart GG – Standards of Performance for Stationary Gas Turbines is not applicable because the two turbines existed prior to Oct. 3, 1977. [40 CFR60.330(b)]

² 40 CFR 63 Subpart YYYY – National Emissions Standards for Hazardous Air Pollutants for Stationary Combustion Turbines is not applicable since the source is not a major source for HAPs.

³ Acid Rain Provisions, Cross-State Air Pollution Rule (CSAPR) and Clean Air Interstate Rule (CAIR) do not apply due to the size and age of the turbine.

⁴ 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.

Emission Point	Description	Install Date	Applicable Regulations	Control ID	Release ID
E1	GT1: one (1) simple cycle combustion turbine, rated capacity 19,400 kW, General Electric, model 5001LA, natural gas fueled with a 300 hp diesel fueled cranking engine GT1ce [with 500 gallon diesel fuel tank (IA)]	5/23/19 69	STAR, 6.42, 40 CFR 63 Subpart ZZZZ	NA	S1
E2	One (1) natural gas compressor used to stabilize fuel pressure for turbine GT1, equipped with one (1) natural gas 4SLB engine, make Waukesha, model VGF-F18GL LCR, rated output 438 HP. (Engine Manufactured 1/17/2003)	2019	STAR, 40 CFR 63 Subpart ZZZZ	NA	S2

Control Devices

There are no control devices associated with this emission unit.

U1 Specific Conditions

S1. Standards

[Regulation 2.16, section 4.1.1]

a. HAP^{5,6}

- 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) For Emission Point E1, 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) For Emission Point E2, the owner or operator shall change the oil and filter every 1,440 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)]
[C-1248-1000-19-V]
 - (3) For Emission Point E1, 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)]
 - (4) For Emission Point E2, the owner or operator shall inspect the spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.
[40 CFR 63. Subpart ZZZZ, Table 2d.(7)(b)] [C-1248-1000-19-V]
 - (5) For Emission Point E2, the owner or operator shall inspect the air cleaners every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.
[40 CFR 63. Subpart ZZZZ, Table 2d.(7)(b)] [C-1248-1000-19-V]
 - (6) For Emission Point E1, the owner or operator shall inspect all hoses and belts every 500 hours of operation or annually, whichever

⁵ For emission point E1, an existing stationary CI RICE located at an area source of HAP emissions, the regulation required the owner or operator to comply with the applicable emission limitations, operating limitations, and other requirements no later than May 3, 2013. [40 CFR 63.6595(a)(1)]

⁶ 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.

comes first, and replace as necessary.

[40 CFR 63. Subpart ZZZZ, Table 2d.(4)(c)]

- ii. Emission Point E1 and E2, 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. For Emission Point E1 and E2, the owner or operator shall demonstrate continuous compliance with each emission limitation, operating limitation and other applicable requirements in Tables 2d to this subpart, that apply according to methods specified in Table 6 to this subpart.
[40 CFR 63.6640(a)]
- iv. For Emission Point E2, you must also report each instance in which you did not meet the requirements in Table 8 to this subpart that apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing emergency stationary RICE, an existing limited use stationary RICE, or an existing stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart, except for the initial notification requirements: a new or reconstructed stationary RICE that combusts landfill

gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new or reconstructed emergency stationary RICE, or a new or reconstructed limited use stationary RICE. [40 CFR 63.6640(e)] [C-1248-1000-19-V]

- i. Table 8 to Subpart ZZZZ of Part 63 —Applicability of General Provisions to Subpart ZZZZ

As stated in §63.6665, you must comply with the following applicable general provisions.

Table 1 – 40 CFR 63 Subpart ZZZZ Applicable general provisions

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.1	General applicability of the General Provisions	Yes.	
§63.2	Definitions	Yes	Additional terms defined in §63.6675.
§63.3	Units and abbreviations	Yes.	
§63.4	Prohibited activities and circumvention	Yes.	
§63.5	Construction and reconstruction	Yes.	
§63.6(a)	Applicability	Yes.	
§63.6(b)(1)-(4)	Compliance dates for new and reconstructed sources	Yes.	
§63.6(b)(5)	Notification	Yes.	
§63.6(b)(6)	[Reserved]		
§63.6(b)(7)	Compliance dates for new and reconstructed area sources that become major sources	Yes.	
§63.6(c)(1)-(2)	Compliance dates for existing sources	Yes.	
§63.6(c)(3)-(4)	[Reserved]		
§63.6(c)(5)	Compliance dates for existing area sources that become major sources	Yes.	
§63.6(d)	[Reserved]		
§63.6(e)	Operation and maintenance	No.	
§63.6(f)(1)	Applicability of standards	No.	
§63.6(f)(2)	Methods for determining compliance	Yes.	
§63.6(f)(3)	Finding of compliance	Yes.	
§63.6(g)(1)-(3)	Use of alternate standard	Yes.	
§63.6(h)	Opacity and visible emission standards	No	Subpart ZZZZ does not contain opacity or visible emission standards.
§63.6(i)	Compliance extension procedures and criteria	Yes.	
§63.6(j)	Presidential compliance exemption	Yes.	
§63.7(a)(1)-(2)	Performance test dates	Yes	Subpart ZZZZ contains performance test dates at §§63.6610, 63.6611, and 63.6612.
§63.7(a)(3)	CAA section 114 authority	Yes.	

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.7(d)	Testing facilities	Yes.	
§63.7(e)(1)	Conditions for conducting performance tests	No.	Subpart ZZZZ specifies conditions for conducting performance tests at §63.6620.
§63.7(e)(2)	Conduct of performance tests and reduction of data	Yes	Subpart ZZZZ specifies test methods at §63.6620.
§63.7(e)(3)	Test run duration	Yes.	
§63.7(e)(4)	Administrator may require other testing under section 114 of the CAA	Yes.	
§63.7(f)	Alternative test method provisions	Yes.	
§63.7(g)	Performance test data analysis, recordkeeping, and reporting	Yes.	
§63.7(h)	Waiver of tests	Yes.	
§63.8(a)(1)	Applicability of monitoring requirements	Yes	Subpart ZZZZ contains specific requirements for monitoring at §63.6625.
§63.8(a)(2)	Performance specifications	Yes.	
§63.8(a)(3)	[Reserved]		
§63.8(a)(4)	Monitoring for control devices	No.	
§63.8(b)(1)	Monitoring	Yes.	
§63.8(b)(2)-(3)	Multiple effluents and multiple monitoring systems	Yes.	
§63.8(c)(1)	Monitoring system operation and maintenance	Yes.	
§63.8(c)(1)(i)	Routine and predictable SSM	No	
§63.8(c)(1)(ii)	SSM not in Startup Shutdown Malfunction Plan	Yes.	
§63.8(c)(1)(iii)	Compliance with operation and maintenance requirements	No	
§63.8(c)(2)-(3)	Monitoring system installation	Yes.	
§63.8(c)(4)	Continuous monitoring system (CMS) requirements	Yes	Except that subpart ZZZZ does not require Continuous Opacity Monitoring System (COMS).
§63.8(c)(5)	COMS minimum procedures	No	Subpart ZZZZ does not require COMS.
§63.8(c)(6)-(8)	CMS requirements	Yes	Except that subpart ZZZZ does not require COMS.
§63.8(d)	CMS quality control	Yes.	
§63.8(f)(1)-(3)&(5)	Alternative monitoring method	Yes	Except that §63.8(f)(4) only applies as specified in §63.6645.
§63.8(g)	Data reduction	Yes	Except that provisions for COMS are not applicable. Averaging periods for demonstrating compliance are specified at §§63.6635 and 63.6640.
§63.9(a)	Applicability and State delegation of notification requirements	Yes.	
§63.9(f)	Notification of visible emission (VE)/opacity test	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.9(i)	Adjustment of submittal deadlines	Yes.	

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.9(j)	Change in previous information	Yes.	
§63.10(a)	Administrative provisions for recordkeeping/reporting	Yes.	
§63.10(b)(1)	Record retention	Yes	Except that the most recent 2 years of data do not have to be retained on site.
§63.10(b)(2)(i)-(v)	Records related to SSM	No.	
§63.10(b)(2)(vi)-(xi)	Records	Yes.	
§63.10(b)(2)(xii)	Record when under waiver	Yes.	
§63.10(b)(2)(xiii)	Records when using alternative to RATA	Yes	For CO standard if using RATA alternative.
§63.10(b)(2)(xiv)	Records of supporting documentation	Yes.	
§63.10(b)(3)	Records of applicability determination	Yes.	
§63.10(c)	Additional records for sources using CEMS	Yes	Except that §63.10(c)(2)-(4) and (9) are reserved.
§63.10(d)(1)	General reporting requirements	Yes.	
§63.10(d)(2)	Report of performance test results	Yes.	
§63.10(d)(3)	Reporting opacity or VE observations	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.10(d)(4)	Progress reports	Yes.	
§63.10(d)(5)	Startup, shutdown, and malfunction reports	No.	
§63.10(e)(1) and (2)(i)	Additional CMS Reports	Yes.	
§63.10(e)(2)(ii)	COMS-related report	No	Subpart ZZZZ does not require COMS.
§63.10(e)(3)	Excess emission and parameter exceedances reports	Yes.	Except that §63.10(e)(3)(i) (C) is reserved.
§63.10(e)(4)	Reporting COMS data	No	Subpart ZZZZ does not require COMS.
§63.10(f)	Waiver recordkeeping/reporting for	Yes.	
§63.11	Flares	No.	
§63.12	State authority and delegations	Yes.	
§63.13	Addresses	Yes.	
§63.14	Incorporation by reference	Yes.	
§63.15	Availability of information	Yes.	

b. NO_x

- i. For Emission Point E1, the owner or operator shall not allow the plantwide NO_x emissions to equal or exceed one hundred (100) tons during any twelve (12) consecutive month period. [Reg. 6.42, section 1.2]

c. TAC

- i. For Emission Point E1 and E2, 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]
- ii. For Emission Point E1, for any conditions outside the environmental acceptability analysis, including if a new TAC is introduced or the content of a TAC in a raw material increases above *de minimis*, the owner or operator shall verify and document the environmental acceptability of the revised emissions at the time of the change. Prior approval by the District is not required for a change pursuant to Regulation 5.21, section 4.22.3 if the requirements of 4.23.1 through 4.23.4 are met. 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, Section 4]
- iii. For Emission Point E1, if the TAC does not have an established BAC or *de minimis* value, the owner or operator shall calculate and report these values. The form, located in Attachment B - Determination of Benchmark Ambient Concentration (BAC), may be used for determining BAC and *de minimis* values. [Regulation 5.20, sections 3 and 4]⁷
- iv. For Emission Point E2, the owner or operator shall perform a new Environmental Acceptability (EA) Demonstration or *de minimis* determination when the following events occur and submit the EA Demonstration on the schedule noted in the reporting section:
 - (1) An application to construct or modify a process or process equipment is submitted to the District pursuant to Regulation 2.03, 2.04 or 2.05. [Regulation 5.21, section 4.22.1]
 - (2) A modification of any physical modeling parameters such as fence lines or building heights that are not otherwise subject to the requirements in this permit that affects the demonstration of compliance. [Regulation 5.21, section 4.22.2]; or
 - (3) A change occurs in the process or process equipment, including raw material or fuel type substitution [Regulation 5.21, section 4.22.3].

⁷ Category 1 and 2 TACs generated by the uncontrolled combustion of diesel fuel in the diesel cranking engine, cannot exceed the Cat 1 and 2 TAC *de minimis* levels. The TAC emissions from the combustion of natural gas, liquefied petroleum gas, methane (including landfill gas), or propane are considered to be “*de minimis* emissions” by the District. [Regulation 5.21, section 2.7]

- v. For Emission Point E2, when a new TAC is introduced or for any existing TAC which does not have an established BAC or de minimis value, the owner or operator shall calculate and report these values as part of any aforementioned EA Demonstration. The form, located in Appendix B, may be used for determining BAC and de minimis values.
[Regulation 5.20, sections 3 and 4]

S2. Monitoring and Record Keeping

[Regulation 2.16, section 4.1.9.1 and 4.1.9.2]

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

a. HAP

- i. Monitoring, installation, collection, operation, and maintenance requirements: [40 CFR 63.6625]
 - (1) For Emission Point E1 and E2, 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 must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. [40 CFR 63.6625(e)]
 - (a) For Emission Point E2, an existing non-emergency, non-black start 4SLB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions. [40 CFR 63.6625(e)(7)]
 - (2) For emission point E1 and E2, 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.
[40 CFR 63.6625(h)]
 - (3) For emission point E1, 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 must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by

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

[40 CFR 63.6625(i)]

- (4) For Emission Point E2, if you own or operate a stationary SI engine that is subject to the work, operation or management practices in items 6, 7, or 8 of Table 2c to this subpart or in items 5, 6, 7, 9, or 11 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 business days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

[40 CFR 63.6625(j)]

- ii. For Emission Point E1 and E2, the owner or operator shall keep the following records that apply to your RICE: [40 CFR 63.6655(a)]
 - (1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirement in 40 CFR 63.10(b)(2)(xiv). [40 CFR 63.6655(a)(1)]
 - (2) Record of the occurrences, 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)]
 - (3) Records of performance tests and performance evaluations as required in 40 CFR 63.10(b)(2)(viii). [40 CFR 63.6655(a)(3)]
 - (4) Records of all required maintenance performed on the air pollution control and monitoring equipment. [40 CFR 63.6655(a)(4)]
 - (5) 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)]

- iii. The owner or operator shall keep the records required in Table 6 of this subpart to show continuous compliance with each emission or operating limitation that applies to the RICE, as the following:
[40 CFR 63.6655(d)]
 - (1) Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; [40 CFR 63, Subpart ZZZZ, Table 6.(9)(a)(i)] or
 - (2) Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.
[40 CFR 63, Subpart ZZZZ, Table 6.(9)(a)(ii)]

- iv. 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)]
 - (1) For Emission Point E2, an existing stationary RICE located at an area source of HAP emissions subject to management practices as shown in Table 2d to this subpart. [40 CFR 63.6655(e)(3)]

b. NO_x

- i. For Emission Point E1, the owner or operator shall monthly, maintain records of the totals of the amounts and the types of fuel combusted by each affected facility, during each month and each twelve (12) consecutive month period.
- ii. For the Emission Point E1, the owner or operator shall monthly calculate and record the twelve (12) consecutive month period plant-wide total of NO_x emitted that is obtained by summing the NO_x emissions produced by E1 turbine and cranking engine using emission factors and equations in Attachment A.

c. TAC

- i. The owner or operator shall maintain records sufficient to demonstrate environmental acceptability, including, but not limited to (M)SDS, analysis of emissions, and/or modeling results.
- ii. If a new TAC is introduced or the content of a TAC in a raw material increases above *de minimis*, the owner or operator shall verify and document the environmental acceptability of the revised emissions, at the time of the change.

S3. Reporting

[Regulation 2.16, section 4.1.1]

The owner or operator shall report the following information, as required by General Condition G14:

a. HAP

- i. For Emission Point E1, 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 must be reported according to the requirements in 40 CFR 63.6650. If you change your catalyst, you must reestablish the values of the operating parameters measured during the initial performance test. When you reestablish the values of your operating parameters, you must also conduct a performance test to demonstrate that you are meeting the required emission limitation applicable to your stationary RICE. [40 CFR 63.6640(b)]

b. NO_x

- i. For Emission Point E1, the monthly totals and the monthly twelve (12) consecutive month totals of tons of NO_x emitted from each diesel cranking engine and each turbine. If the company exercises the alternative

methodology to AP-42, a fuel analysis indicating the average annual heat content of the combusted fuels shall also be supplied.

- ii. For Emission Point E1, the owner or operator shall identify all periods of exceeding the 100 ton/year plant-wide NO_x emission standard during a semi-annual reporting period. The semi-annual compliance report shall include the following:
 - (1) Emission Unit ID number and emission point ID number;
 - (2) Identification of all periods during which a deviation occurred;
 - (3) A description, including the magnitude, of the deviation;
 - (4) If known, the cause of the deviation; and
- iii. For Emission Point E1, a description of all corrective actions taken to abate the deviation.

c. TAC

- i. For Emission Point E1, any conditions that were inconsistent with those conditions analyzed in the most recent Environmental Acceptability Demonstration.
- ii. For Emission Point E2, the owner or operator shall submit new EA Demonstrations involving applications to construct or modify with the construction permit application. [Regulation 5.21, section 4.22.1]
- iii. For Emission Point E2, the owner or operator shall submit new EA Demonstrations involving modification of any physical modeling parameter, such as fence lines or building heights, that are not otherwise subject to the permit requirements for that facility that affects the demonstration of compliance with the operating permit renewal application. [Regulation 5.21, section 4.22.2]
- iv. For Emission Point E2, the owner or operator shall submit new EA Demonstrations involving a change in a process or process equipment, including raw material or fuel type substitution before making the change. [Regulation 5.21, section 4.22.3]
 - (1) Prior approval by the District is not required if the change does not result in emissions that exceed an EA goal, does not cause emissions of a TAC to no longer be de minimis, and a permit modification is not required. In this case, the new EA Demonstration shall be submitted within 6 months of the change.

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	Qty.	PTE (ton/yr)	Regulation Basis
IE1 - Diesel Fuel Storage tank, 500 gallons [supplies GT1ce, cranking engine] (See U1)	1	VOC = 5.57E-7	Regulation 1.02, Appendix A
IE2 - Lube Oil tank ⁸	1	VOC = 5.0E-6	Regulation 1.02, Appendix A
IE3 - 50/50 Glycol-water pressurized tank ⁸	1	VOC = 5.0E-6	Regulation 1.02, Appendix A
IE4 - Emergency relief vents	1	NA	Regulation 1.02, Appendix A

1. 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.
2. 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.
3. The Insignificant Activities Table is correct as of the date the permit was proposed for review by U.S. EPA, Region 4.
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. The owner or operator shall submit an updated list of insignificant activities that occurred during the preceding year pursuant to Regulation 2.16, section 4.3.5.3.6.

⁸ STAR is the only applicable regulation and as this equipment is an Insignificant Activity it is *de minimis* by definition in Regulation 5.21, section 2.3.

6. The owner or operator may elect to monitor actual throughputs for each of the insignificant activities and calculate actual annual emissions, or use Potential to Emit (PTE) to be reported on the annual emission inventory.
7. The District has determined pursuant to Regulation 2.16, section 4.1.9.4 that no monitoring, record keeping, or reporting requirements apply to the insignificant activities listed, except for the equipment that has an applicable regulation and permitted under an insignificant activity (IA) unit.

Fee Comment

1. The Administrative permit revision fee is \$536.10.

Attachment A - Calculation Methodology and Emission Factors

Emissions are calculated by multiplying the throughput (ton, MMCF, gallons, etc) or hours of operation of the equipment by the appropriate emission factor and 1 minus any control device's efficiency. The following emission factors and calculation methodology shall be used unless other methods or emission factors are approved in writing by the District.

Natural Gas: The emission factor conversions are based on the average natural gas heating value (HHV) of 1020 Btu/scf. The conversion of AP-42 emission factors from (lb/MMBtu) to (lb/10⁶ scf) are calculated by multiplying by 1020 (AP-42, 3.1-1 footnote c).

Diesel: The emission factor conversions are based on the average distillate oil heating value of 139 MMBtu/10³ gallons. The conversion of AP-42 emission factors from (lb/MMBtu) to (lb/10³ gallon) are calculated by multiplying by 139 (AP-42, 3.1-1 footnote f).

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.

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.

Table 2 – E1 Natural Gas Combustion Criteria Pollutant Emission Factors

Emission Source	Pollutant	Natural Gas Emission Factor			Emission Factor Source
		lb/10 ⁶ scf natural gas combusted		lb/MMBtu natural gas combusted	
		Uncontrolled	Controlled		
E1	NO _x	326	326	0.3200	AP-42, 3.1-1
	CO	84	84	0.0820	AP-42, 3.1-1
	PM total	0.52	0.52	5.1E-04	Sum of factors for PM condensable and PM ₁₀ filterable
	PM condensable	0.32	0.32	3.1E-04	Roy Huntley, EPA ⁹
	PM ₁₀ filterable	0.20	0.20	2.0E-04	Roy Huntley, EPA
	PM _{2.5} filterable	0.11	0.11	1.1E-04	Roy Huntley, EPA
	SO ₂	0.67	0.67	0.00068	AP-42, 3.1-2a, h ₁₀
	VOC	2.14	2.14	0.0021	AP-42, 3.1-2a

⁹ The revised PM emission factors are from: "EPA's Emission Inventory and Analysis Group guidance 3/30/2012".

¹⁰ AP-42 3.1-2a h: All sulfur in the fuel is assumed to be converted to SO₂. S = percent sulfur in fuel. The sulfur content is 7 ppm per company submittal on 10/26/2018.

Emission Source	Pollutant	Natural Gas Emission Factor			Emission Factor Source
		lb/10 ⁶ scf natural gas combusted		lb/MMBtu natural gas combusted	
		Uncontrolled	Controlled		
	NH ₃	3.26	3.26	0.0032	EPA Web FIRE

$$E = (X)(EF \text{ lb}/10^6 \text{ scf})(1 \text{ ton}/2000 \text{ lb.})$$

Where: E = emissions (tons)

X = the amount of natural gas combusted (10⁶ scf)

[AP-42 EF (lb/MMBtu) converted to (lb/10⁶ scf natural gas combusted)]

Table 3 – E2 Natural Gas Combustion Criteria Pollutant Emission Factors

Emission Source	Pollutant	Natural Gas Emission Factor		Emission Factor Source
		Uncontrolled	Units	
E2	NO _x	2	g/bhp-hr	Manufacturer tested
	CO	1.3	g/bhp-hr	Manufacturer tested
	PM total	0.0099871	lb/MMbtu	AP-42, 3.2-2
	PM condensable	0.00991	lb/MMbtu	AP-42, 3.2-2
	PM ₁₀ filterable	0.0000771	lb/MMbtu	AP-42, 3.2-2
	PM _{2.5} filterable	0.0000771	lb/MMbtu	AP-42, 3.2-2
	SO ₂	0.000588	lb/MMbtu	AP-42, 3.2-2
	VOC	0.04	g/bhp-hr	Manufacturer tested

Table 4 – E1 Natural Gas Combustion HAP/TAC Emission Factors

Emission Source	Individual HAP/TAC	CAS	Natural Gas Emission Factor			Emission Factor Source
			lb/10 ⁶ scf natural gas combusted		lb/MMBtu natural gas combusted	
			Uncontrolled	Controlled		
E1	1,3-Butadiene	106-99-0	4.39E-04	4.39E-04	4.30E-07	AP-42, 3.1-3

Emission Source	Individual HAP/TAC	CAS	Natural Gas Emission Factor			Emission Factor Source
			lb/10 ⁶ scf natural gas combusted		lb/MMBtu natural gas combusted	
			Uncontrolled	Controlled		
Acetaldehyde	75-07-0	4.08E-02	4.08E-02	4.00E-05	AP-42, 3.1-3	
Acrolein	107-02-8	6.53E-03	6.53E-03	6.40E-06	AP-42, 3.1-3	
Benzene	71-43-2	1.22E-02	1.22E-02	1.20E-05	AP-42, 3.1-3	
Ethylbenzene	100-41-4	3.26E-02	3.26E-02	3.20E-05	AP-42, 3.1-3	
Formaldehyde)	50-00-00	7.24E-01	7.24E-01	7.10E-04	AP-42, 3.1-3	
Naphthalene	91-20-3	1.33E-03	1.33E-03	1.30E-06	AP-42, 3.1-3	
Propylene Oxide	75-56-9	2.96E-02	2.96E-02	2.90E-05	AP-42, 3.1-3	
Toluene	108-88-3	1.33E-01	1.33E-01	1.30E-04	AP-42, 3.1-3	
Xylene	1330-20-7	6.53E-02	6.53E-02	6.40E-05	AP-42, 3.1-3	

$$E_{(HAP)} = (X)(EF \text{ lb}/10^6 \text{ scf})(1 \text{ ton}/2000 \text{ lb.})$$

Where: $E_{(HAP)}$ = emissions (tons)

X = the amount of natural gas combusted (10⁶ scf)

[AP-42 EF (lb/MMBtu) converted to (lb/10⁶ scf natural gas combusted)]

Table 5 – E2 Natural Gas Combustion HAP/TAC Emission Factors

Emission Source	Pollutant	Natural Gas Emission Factor		Emission Factor Source
		Uncontrolled	Units	
E2	1,1,2,2-Tetrachloroethane	4.00E-05	lb/MMBtu	AP-42, 3.2-2
	1,1,2-Trichloroethane	3.18E-05	lb/MMBtu	AP-42, 3.2-2
	1,1-Dichloroethane	2.36E-05	lb/MMBtu	AP-42, 3.2-2
	1,2-Dichloroethane	2.36E-05	lb/MMBtu	AP-42, 3.2-2
	1,3-Dichloropropene	2.64E-05	lb/MMBtu	AP-42, 3.2-2
	2,2,4-Trimethylpentane	2.50E-04	lb/MMBtu	AP-42, 3.2-2
	Acetaldehyde	8.36E-03	lb/MMBtu	AP-42, 3.2-2
	Acrolein	5.14E-03	lb/MMBtu	AP-42, 3.2-2
	Benzene	4.40E-04	lb/MMBtu	AP-42, 3.2-2
	Biphenyl	2.12E-04	lb/MMBtu	AP-42, 3.2-2
	Carbon Tetrachloride	3.67E-05	lb/MMBtu	AP-42, 3.2-2
	Chlorobenzene	3.04E-05	lb/MMBtu	AP-42, 3.2-2

Emission Source	Pollutant	Natural Gas Emission Factor		Emission Factor Source
		Uncontrolled	Units	
	Chloroform	2.85E-05	lb/MMBtu	AP-42, 3.2-2
	Ethylbenzene	3.97E-05	lb/MMBtu	AP-42, 3.2-2
	Ethylene Dibromide	4.43E-05	lb/MMBtu	AP-42, 3.2-2
	Formaldehyde	5.28E-02	lb/MMBtu	AP-42, 3.2-2
	Methanol	2.50E-03	lb/MMBtu	AP-42, 3.2-2
	Methylene Chloride	2.00E-05	lb/MMBtu	AP-42, 3.2-2
	Hexane	1.11E-03	lb/MMBtu	AP-42, 3.2-2
	Naphthalene	7.44E-05	lb/MMBtu	AP-42, 3.2-2
	Phenol	2.40E-05	lb/MMBtu	AP-42, 3.2-2
	Styrene	2.36E-05	lb/MMBtu	AP-42, 3.2-2
	Tetrachloroethane	2.48E-06	lb/MMBtu	AP-42, 3.2-2
	Toluene	4.08E-04	lb/MMBtu	AP-42, 3.2-2
	Vinyl Chloride	1.49E-05	lb/MMBtu	AP-42, 3.2-2
	Xylene	1.84E-04	lb/MMBtu	AP-42, 3.2-2

Table 6 – E1 Diesel Combustion cranking engine Criteria Pollutant Emission Factors

Emission Source	Pollutant	Diesel Fuel Emission Factor			Emission Factor Source
		lb/gallon diesel fuel combusted		lb/MMBtu diesel fuel combusted	
		Uncontrolled	Controlled		
E1 cranking engine	NO _x	6.13E-01	6.13E-01	4.41	AP-42, 3.3-1
	CO	1.32E-01	1.32E-01	0.95	AP-42, 3.3-1
	PM total	4.31E-02	4.31E-02	0.31	AP-42, 3.3-1, b
	PM condensable	4.31E-02	4.31E-02	0.31	AP-42, 3.3-1, b
	PM ₁₀ filterable	4.31E-02	4.31E-02	0.31	AP-42, 3.3-1
	PM _{2.5} filterable	4.31E-02	4.31E-02	0.31	AP-42, 3.3-1, b
	SO ₂	4.03E-02	4.03E-02	0.290	AP-42, 3.3-1
	VOC	5.00E-02	5.00E-02	0.36	AP-42, 3.3-1 (Sum of TOC emission factors)

$$E = (X)(EF \text{ lb/gallon})(1 \text{ ton}/2,000 \text{ lb})$$

Where: E = emissions (tons) annually

X = the amount of diesel fuel (gallons) combusted annually

Table 7 – E1 Diesel Combustion cranking engine HAP/TAC Emission Factors

Emission Source	Individual HAP/TAC	CAS	Diesel Fuel Emission Factor			Emission Factor Source
			lb/gallon diesel fuel combusted		lb/MMBtu diesel fuel combusted	
			Uncontrolled	Controlled		
E1	Benzene	71-43-2	1.30E-04	1.30E-04	9.33E-04	AP-42, 3.3-2
	Toluene	108-88-3	5.68E-05	5.68E-05	4.09E-04	AP-42, 3.3-2
	Xylenes	1330-20-7	3.96E-05	3.96E-05	2.85E-04	AP-42, 3.3-2
	1,3-Butadiene	106-99-0	5.43E-06	5.43E-06	3.91E-05	AP-42, 3.3-2
	Formaldehyde	50-00-00	1.64E-04	1.64E-04	1.18E-03	AP-42, 3.3-2
	Acetaldehyde	75-07-0	1.07E-04	1.07E-04	7.67E-04	AP-42, 3.3-2
	Acrolein	107-02-8	1.28E-05	1.28E-05	9.25E-05	AP-42, 3.3-2
	Poly aromatic hydrocarbons (PAH)					
	Naphthalene	91-20-3	1.18E-05	1.18E-05	8.48E-05	AP-42, 3.3-2
	Acenaphthylene	203-96-8	7.03E-07	7.03E-07	5.06E-06	AP-42, 3.3-2
	Acenaphthene	83-32-9	1.97E-07	1.97E-07	1.42E-06	AP-42, 3.3-2
	Fluorene	86-73-7	4.06E-06	4.06E-06	2.92E-05	AP-42, 3.3-2
	Phenanathrene	85-01-8	4.08E-06	4.08E-06	2.94E-05	AP-42, 3.3-2
	Anthracene	120-12-7	2.60E-07	2.60E-07	1.87E-06	AP-42, 3.3-2
	Fluoranthene	206-44-0	1.06E-06	1.06E-06	7.61E-06	AP-42, 3.3-2
	Pyrene	129-00-0	6.64E-07	6.64E-07	4.78E-06	AP-42, 3.3-2
	Benzo(a)anthracene	56-55-3	2.33E-07	2.33E-07	1.68E-06	AP-42, 3.3-2
	Chrysene	218-01-9	4.90E-08	4.90E-08	3.53E-07	AP-42, 3.3-2
	Benzo(b)fluoranthene	205-99-2	1.38E-08	1.38E-08	9.91E-08	AP-42, 3.3-2
Benzo(k)fluoranthene	205-82-3	2.15E-08	2.15E-08	1.55E-07	AP-42, 3.3-2	

	Benzo(a)pyrene	50-32-8	2.61E-08	2.61E-08	1.88E-07	AP-42, 3.3-2
	Indeno (1,2,3-cd) pyrene	193-39-5	5.21E-08	5.21E-08	3.75E-07	AP-42, 3.3-2
	Dibenz(a,h)anthracene	53-70-3	8.10E-08	8.10E-08	5.83E-07	AP-42, 3.3-2
	Benzo(g,h,i)perylene	191-24-2	6.79E-08	6.79E-08	4.89E-07	AP-42, 3.3-2
	Total PAH		2.34E-05	2.34E-05	1.68E-04	AP-42, 3.3-2

$$E_{(HAP)} = (X)(EF \text{ lb/gallon})(1 \text{ ton}/2,000 \text{ lb})$$

Where: $E_{(HAP)}$ = HAP emissions (tons) annually
 X = the amount of diesel fuel (gallons) combusted annually

Table 8 - Insignificant Activities List Emission Factors

Emission Source	Pollutant	Emission Factor Source
IE1	VOC	Emissions accounted for in the working losses for the storage tanks below using AP-42 evaporative losses.
IE2	VOC	Emissions accounted for in the working losses for the storage tanks below using AP-42 evaporative losses.
IE3	VOC	Emissions accounted for in the working losses for the storage tanks below using AP-42 evaporative losses.

Attachment B – Determination of Benchmark Ambient Concentration (BAC)

Category _____ Number _____

Compound name _____ CAS No. _____

Molecular weight _____

BAC_C = _____ μg/m³, annual BAC_{NC} = _____ μg/m³, _____ (avg period)
de minimis _____ lb/hr; _____ lb/_____; _____ lb/year

I. Carcinogen Risk - BAC_C (annual averaging period)

Carcinogen YES NO

1. IRIS 10⁻⁶ risk = _____ μg/m³ URE = _____ (μg/m³)⁻¹ Date _____
2. Cal 10⁻⁶ risk = _____ μg/m³ IUR = _____ (μg/m³)⁻¹ Date _____
3. Mich 10⁻⁶ risk = _____ μg/m³ Date _____
4. NTP Part A YES NO Part B YES NO
5. IARC Group 1 YES NO Group 2A YES NO Group 2B YES NO
6. ATSDR
7. Sec. 3.3.4 Method # _____ 10⁻⁶ risk = _____ μg/m³ Date _____
8. Default 0.0004 μg/m³

II. Chronic Noncancer Risk - BAC_{NC} (averaging period as specified)

1. IRIS RfC = _____ μg/m³, annual Date _____
2. Cal REL = _____ μg/m³, annual Date _____
3. IRIS [1] RfD = _____ μg/kg/day × (70/20) = _____ μg/m³, annual Date _____
4. Mich ITSL = _____ μg/m³, _____ averaging period Date _____
5. TLV NIOSH = _____ μg/m³ × 0.01 = _____ μg/m³, 8-hour Date _____
6. RTECS [1] _____ = _____ μg/m³, annual Date _____
 (describe calculation from Reg 5.20, sections 4.6 - 4.10)
7. Default 0.004 μg/m³

[1] To use data based upon an oral route of exposure, the District must make an affirmative determination that data are not available to indicate that oral-route to inhalation-route extrapolation is inappropriate.

III. De minimis calculations

1. Carcinogen BAC_C _____ μg/m³ × 0.54 = _____ lb/hour
 BAC_C _____ μg/m³ × 480 = _____ lb/year
2. Chronic Noncancer Risk _____ (averaging period)
 BAC_{NC} _____ μg/m³ × F factor = _____ lb/(avg period)

BAC averaging period	F factor for avg period			
	Annual	24 hour	8 hour	1 hour
Annual	480			0.54
24 hours		0.12		0.05
8 hours			0.02	0.02
1 hour				0.001

[Regulation 5.22, table 1]

Prepared by _____ Date _____