



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



Title V Operating Permit

Permit No.: 130-97-TV (R1)

Plant ID: 0125

Effective Date: 1/18/2013

Expiration Date: 1/31/2018

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, Paddy's Run Station
4600 Bells Lane
Louisville, KY 40211

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.: 10459

Application Received: 6/15/2004

Permit Writer: Bob Wesely

Administratively Complete: 8/15/2004

Date of Public Notice: 11/1/2012

Date of proposed permit: 11/1/2012

A handwritten signature in blue ink, appearing to read "Paul Gaud".

Air Pollution Control Officer
December 18, 2012

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Permit Revisions/Changes

Revision No.	Issue Date	Public Notice Date	Type	Attachment No./Page No.	Description
N/A	12/17/1999	10/17/1999	Initial	Entire Permit	Initial Permit Issuance
R1	12/18/2012	11/01/2012	Renewal	Entire Permit	Regular Renewal, Incorporated permit 48-00-C

Abbreviations and Acronyms

AFS	-	AIRS Facility Subsystem
AIRS	-	Aerometric Information Retrieval System
APCD	-	Air Pollution Control District
ASL	-	Adjusted Significant Level
atm	-	Atmosphere
BACT	-	Best Available Control Technology
Btu	-	British Thermal Unit
CEMS	-	Continuous Emission Monitoring System
CAAA	-	Clean Air Act Amendments (15 November 1990)
HAP	-	Hazardous Air Pollutant
hr	-	hour
lbs	-	Pounds
l	-	Liter
MACT	-	Maximum Achievable Control Technology
m	-	Meter
mg	-	Milligram
mm	-	Millimeter
MM	-	Million
MOCS	-	Management of Change System
NAICS	-	North American Industry Classification System
NSR	-	New Source Review
NO _x	-	Nitrogen oxides
NSPS	-	New Source Performance Standards
PM	-	Particulate Matter
PM ₁₀	-	Particulate matter less than 10 microns
ppm	-	Parts per million
PSD	-	Prevention of Significant Deterioration
PMP	-	Preventive Maintenance Plan
psia	-	Pounds per square inch absolute
RACT	-	Reasonably Available Control Technology
SC	-	Specific Condition
SIC	-	Standard Industrial Classification
SIP	-	State Implementation Plan
SO ₂	-	Sulfur dioxide
TAC	-	Toxic Air Contaminant
TAL	-	Threshold Ambient Limit
TAP	-	Toxic Air Pollutant
tpy	-	Tons per year
UTM	-	Universal Transverse Mercator
VOC	-	Volatile Organic Compound

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 list 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 2.02, Section 2 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 2.02, Section 2 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. 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 1.3)

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. 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 January 1st through June 30th and July 1st through December 31st of each calendar year. All reports shall 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. All semi-annual compliance reports shall include the following certification statement per Regulation 2.16.

- “Based on information and belief formed after reasonable inquiry, I certify that the statements and information in this document are true, accurate, and complete”.
- Signature and title of company responsible official.

If a change in the “Responsible Official” (RO) occurs during the term of this permit, the owner or operator shall provide written notification (Form 9400-A and Form AP-0208) to the District within 30 calendar days following the date a change in the designated RO occurs for this facility.

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 through June 30	August 29 th
July 1 through December 31	March 1 st ¹

Note:

¹ The date for leap years is February 29.

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
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:

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
4.02	Episode Criteria
4.03	General Abatement Requirements
4.07	Episode Reporting Requirements

Regulation	Title
6.01	General Provisions (Existing Affected Facilities)
6.02	Emission Monitoring for Existing Sources
7.01	General Provision (new Affected Facilities)

District Only Enforceable:

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	Standards for Toxic Air Contaminants and Hazardous air Pollutants
5.01	General Provisions
5.02	Adoption and Incorporation by Reference of National Emission Standards for Hazardous Air Pollutants
5.04	Adoption of Federal Emission Standards for Asbestos
5.13	Additional Control Standards for Asbestos Removal
5.14	Hazardous Air Pollutants and Source Categories
5.15	Chemical Accident Prevention Provisions
5.16	Control Technology Requirements for New and Reconstructed Major Stationary Sources of Hazardous Air Pollutants
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 40 CFR 82 Subpart A, Production and Consumption Controls. (Regulation 2.16, section 4.1.5)

Emission Unit U1: Combustion Turbines GT11 and GT12.

U1 Applicable Regulations:

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	Title	Applicable Sections
6.42	Reasonable Available Control Technology Requirements for Major Volatile Organic Compound and Nitrogen Oxides Emitting Facilities	1.2 (U1 Comment #4)
40 CFR 63 Subpart ZZZZ	National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines	§63.6603 & §63.6625

DISTRICT ONLY ENFORCEABLE REGULATIONS		
Regulation	Title	Applicable Sections
5.01	General Provisions	1 and 2
5.02	Adoption and Incorporation by Reference of National Emission Standards for Hazardous Air Pollutants	1 through 6
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 6
5.23	Categories of Toxic Air Contaminants	1 through 6

U1 Equipment:

Emission Point	Description	Applicable Regulation	Control ID
E11	One (1) 19,500 kW rated, natural gas primary fueled, simple cycle combustion turbine GT11, with 300 hp diesel fueled cranking engine (installed June 10, 1968), vented out stack S1	5.01, 5.02, 5.20, 5.21, 5.22, 5.23, 6.42 40 CFR 63 Subpart ZZZZ	N/A
E12	One (1) 29,000 kW rated, natural gas primary fueled, simple cycle combustion turbine GT12, with 750 hp diesel fueled cranking engine, (installed July 16, 1968), vented out stack S2	5.01, 5.02, 5.20, 5.21, 5.22, 5.23, 6.42 40 CFR 63 Subpart ZZZZ	N/A

Emission Unit U1:

Emission point GT11: One (1) General Electric, model 5001LA, natural gas fueled (only) simple cycle, combustion turbine Unit GT11, powering an electrical generator, with a turbine rated capacity of 19,500 kW, installed June 10, 1968, and vented out stack S1, with a 300 hp diesel cranking reciprocating internal combustion engine (RICE). Turbine generator is used as required to meet peak load electrical demand.

Emission point GT12: One (1) Westinghouse, model W-301G, natural gas fueled (only) simple cycle, combustion turbine Unit GT12, powering an electrical generator, with a turbine rated capacity of 29,000 kW, installed July 16, 1968, and vented out stack S2, with a 750 hp diesel cranking RICE. The turbine generator is used as required to meet peak load electrical demand.

U1 Control Devices:

There are no control devices associated with Emission Unit U1.

U1 Specific Conditions

S1. **Standards** (Regulation 2.16, section 4.1.1)

a. **NO_x**

The owner or operator shall not allow the plant-wide NO_x emissions to equal or exceed one hundred (100) tons during any twelve (12) consecutive month period. (Reg. 6.42, section 1.2)(See U1 Comment #4)

b. **HAP**

For diesel cranking RICEs:

The owner or operator of the existing black start RICEs shall perform the below listed maintenance on the black start RICEs. The RICEs must be installed and configured according to the manufacturer's specifications and 40 CFR 63.6603(a) and Table 2(d).

- i. Change oil and filter every 500 hours of operation or annually, whichever comes first:¹ (Note ¹: Sources have the option to utilize an oil analysis program as described in §63.6625(i) in order to extend the specified oil change requirement in table 2d of this subpart.)
- ii. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first: and
- iii. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary

c. **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 5.01 and 5.21) (See U1 Comment #3)

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

The owner or operator shall record, on the first working day after the end of each month, the below listed items and shall maintain the required records for a minimum of five (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 totals of the amounts and the types of fuel combusted by each affected facility, during

each month and each twelve (12) consecutive month period, to demonstrate ongoing compliance with the annual limit for NO_x emissions.

- ii. The owner or operator shall monthly calculate and record the twelve (12) consecutive month period total of NO_x emissions from the turbines GT11 and GT12 utilizing the AP-42, table 3.1-1, Emission Factors for Nitrogen Oxides and Carbon Monoxide from Stationary Gas Turbines, and the formula shown below, unless another method is approved by the District:

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

Where: E_{NO_x} = NO_x emissions (tons) during a consecutive 12-month period

X = the amount of natural gas (MMcf) combusted during a consecutive 12-month period

- iii. The owner or operator shall monthly calculate and record the twelve (12) consecutive month period total of NO_x emissions from the 300 hp diesel cranking engine at GT11 utilizing AP-42, table 3.3-1, Emission Factors for Uncontrolled Gasoline and Diesel Industrial Engines (diesel engines less than or equal to 600 hp), and the formula shown below, unless another method is approved by the District:

$$E_{\text{NO}_x} = (4.41 \text{ lb NO}_x/\text{MMbtu})(0.139 \text{ MMbtu/gal})(X)(1 \text{ ton}/2,000 \text{ lb})$$

Where: E_{NO_x} = NO_x emissions (tons) during a consecutive 12-month period

X = the amount of diesel fuel (gal) combusted, in the cranking engine, during a consecutive 12-month period

- iv. The owner or operator shall monthly calculate and record the twelve (12) consecutive month period total of NO_x emissions from the 750 hp diesel cranking engine at GT12 utilizing AP-42, table 3.4-1, Gaseous Emission Factors for Large Stationary Diesel and All Stationary Dual-Fuel Engines (diesel engines greater than 600 hp), and the formula shown below, unless another method is approved by the District:

$$E_{\text{NO}_x} = (3.2 \text{ lb NO}_x/\text{MMbtu})(0.139 \text{ MMbtu/gal})(X)(1 \text{ ton}/2,000 \text{ lb})$$

Where: E_{NO_x} = NO_x emissions (tons) during a consecutive 12-month period

X = the amount of diesel fuel (gal) combusted, in the cranking engine, during a consecutive 12-month period

- v. 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.

- vi. 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. **HAP**

For diesel cranking RICEs:

- i. The owner or operator shall operate and maintain the stationary RICEs and after-treatment control devices (if any) according to the manufacturer's emission-related written instructions or develop a maintenance plan which must provide to the extent practicable for the maintenance and operation of the RICEs in a manner consistent with good air pollution control practice for minimizing emissions, for the following stationary RICE. (40CFR63 Subpart ZZZZ §63.6625(e))

Existing emergency or black start stationary RICE located at an area source of HAP emissions. (40CFR63 Subpart ZZZZ§63.6625(e)(3))

- ii. The owner or operator of the existing black start RICEs shall monitor and record the maintenance activities performed to show compliance with Specific Condition S1.b, as a minimum requirement of Section S2.b.i.

c. **TAC**

- i. The owner or operator shall maintain records sufficient to demonstrate environmental acceptability, including, but not limited to Material Safety Data Sheet (MSDS), analysis of emissions, and/or modeling results. (See U1 Comment #3)
- ii. If a new TAC is introduced or the content of a TAC in a raw material increases, the owner or operator shall re-evaluate the environmental acceptability and document the environmentally acceptable emissions.

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. 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. The compliance reports shall be postmarked within 60 days following the end of each reporting period. All compliance reports shall include the following certification statement per Regulation 2.16, section 3.5.11. (See U1 Comment #2)

- a. **NO_x**
- i. 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 to AP-42, in U1 Specific Condition S2.a.v, a fuel analysis indicating the average annual heat content of the combusted fuels shall also be supplied.
 - ii. The owner or operator shall identify all periods of exceeding the 100 tn/yr plantwide 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;
 - 5) A description of all corrective actions taken to abate the deviation; and
 - 6) If no deviations occur during a quarterly reporting period, the report shall contain a negative declaration.
 - iii. The annual emission inventory may count as the second semi-annual compliance report, so long as the annual emission inventory is received by the District by the second semi-annual compliance report due date, March 1, of each year and contains the information required by S3.a.i and S3.a.ii.
- b. **HAP**
- There are no routine reporting compliance requirements for this pollutant.
- c. **TAC**
- i. Within 6 months of a change of a raw material as described in S2.c.ii, the owner or operator shall submit the re-evaluated EA demonstration to the District. (See U1 Comment #3)
 - ii. The owner or operator shall report any conditions that were inconsistent with those conditions analyzed in the most recent Environmental Acceptability Demonstration or an Negative Declaration stating that operations were within the conditions analyzed. This includes, but is not limited to, control device upset conditions
 - iii. For any conditions outside the analysis, the owner or operator shall re-analyze to determine whether these conditions comply with the STAR program.

U1 Comments

1. NO_x emission factors were obtained from AP-42, Chapter 3.1, Stationary Gas Turbines, table 3.1-1, from AP-42, Chapter 3.3, Gasoline and Diesel Industrial Engines (less than 600 hp), table 3.3-1, and from AP-42, Chapter 3.4, Large Stationary Diesel and All Stationary Dual-fuel Engines (greater than 600 hp), table 3.4-1.
2. The report periods and due dates for the semi-annual reports required by this emission unit are as listed in General Condition #14, Monitoring and Related Record Keeping and Reporting Requirements
3. Category 1 and 2 TACs generated by the uncontrolled combustion of diesel fuel in both of the diesel cranking engines, 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)
4. The company submitted a letter dated October 20, 1998, requesting a plant-wide NO_x limit of less than 100 tn/yr in order to avoid NO_x RACT and PSD/Nonattainment NSR. This limit ensures that the company is not required to comply with the RACT requirements of Regulation 6.42.
5. The Risk Management Plan (RMP) was addressed by company’s written response in letter of 1975, and is not required for this facility.
6. 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. (§60.330(b))
7. 40 CFR 63 Subpart YYYY – National Emissions Standards for Hazardous Air Pollutants for Stationary Combustion Turbines does not require limits for the two turbines because they are existing. Existing stationary turbines in all subcategories do not have to meet the requirements of the Subpart and of Subpart A of this part. No initial notification is necessary for any existing stationary combustion turbine, even if the unit appears to be subject to the other requirements for initial notification. No initial notification was required. (§63.6090(b)(3))

Emission Unit U2: Combustion Turbine GT13**U2 Applicable Regulations:**

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	Title	Applicable Sections
6.42	Reasonable Available Control Technology Requirements for Major Volatile Organic Compound and Nitrogen Oxides Emitting Facilities	1.2 (U2 Comment #6)
6.47	Federal Acid Rain Program Incorporated by Reference	1, 2, 3, 4 & 5
7.02	Adoption and Incorporation by reference of Federal New Source performance Standards	1, 2, 3, 4 & 5
40 CFR 60 Subpart A	General Provisions	§60.1 through §60.19
40 CFR 60 Subpart GG	Standards of Performance for Stationary Gas Turbines	§60.332, §60.333 & §60.334
40 CFR 72 Subpart A	Acid Rain Program General Provisions	§72.2
40 CFR 73 Subpart B	Allowance Allocations	§73.10(b) & §73.20(d)(2)
40 CFR 75 Appendix E	Optional NO _x Emissions Estimation Protocol for Gas-Fired Peaking Units & Oil-Fired Peaking Units	§1.1
40 CFR 77	Excess Emissions	§

DISTRICT ONLY ENFORCEABLE REGULATIONS		
Regulation	Title	Applicable Sections
5.01	General Provisions	1 and 2
5.02	Federal Emission Standards for Hazardous Air Pollutants Incorporated by Reference	1 through 6
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 6
5.23	Categories of Toxic Air Contaminants	1 through 6

U2 Equipment:

Emission Point	Description	Applicable Regulation	Control ID
E13	One (1) 175 MW rated, natural gas fueled, simple cycle combustion turbine GT13, (installed June 27, 2001), vented out stack S3	5.01, 5.02, 5.20, 5.21, 5.22, 5.23, 6.42, 7.02, 40 CFR 60 Subpart A, Subpart GG, 40 CFR 72, 40 CFR 73, 40 CFR 75 40 CFR 77	N/A

Emission Unit U2: One (1) Siemens Westinghouse, model V84.3A2, natural gas fueled (no alternate fuel), simple cycle, combustion turbine Unit GT13, powering an electrical generator, with a turbine rated capacity of 175 MW, installed June 27, 2001, and vented out stack S3. Turbine generator is used as required to meet peak load electrical demand.

U2 Control Devices: There are no control devices associated with Emission Unit U2.

U2 Specific Conditions**S1. Standards** (Regulation 2.16, section 4.1.1)**a. NO_x**

- i. The owner or operator shall not allow the plant-wide NO_x emissions to equal or exceed one hundred (100) tons during any twelve (12) consecutive month period. (Regulation 6.42, section 1.2)(U2 Comment #6)
- ii. The owner or operator shall not allow the total NO_x emissions from unit GT13 to exceed ninety (90) tons during any twelve (12) consecutive month period. (Construction Permit 48-00-C, effective date 02/28/2002) (Regulation 6.42, section 1.2)(See U2 Comment #13)
- iii. The owner or operator shall use the alternate method of calculating NO_x emissions as allowed by 40 CFR Part 75 Appendix E, Optional NO_x Emissions Estimating Protocol for Gas-Fired Peaking Units and Oil-Fired Peaking Units, so long as the unit meets the definition of a peaking unit as listed below in paragraphs 1) and 2). (40 CFR 75 Appendix E §1.1)
 - 1) An average capacity factor of no more than 10.0 percent during the previous three calendar years, and
 - 2) A capacity factor of no more than 20.0 percent in each of those calendar years. (40 CFR 72.2)
- iv. For compliance with Part 75, a unit that initially qualifies as a peaking unit must meet the criteria in paragraph 1) and 2) of the definition each year in order to continue to qualify as a peaking unit. If such a unit fails to meet such criteria for a given year, the unit no longer qualifies as a peaking unit starting January 1 of the year after the year for which the criteria are not met. (40 CFR 72.2, Peaking Unit (3))
- iv. The owner or operator shall install and certify a NO_x - diluent continuous emission monitoring system no later than December 31 of the following calendar year, if the unit's operations exceed the levels required to be a peaking unit and the CEMS data will be used to calculate emissions. (40 CFR 75 Appendix E §1.1)
- v. The owner or operator shall not cause to be discharged into the atmosphere from emission point GT13, any gases which contain nitrogen oxides in excess of 158 ppmV at 15% O₂ and on a dry basis. (40 CFR 60.332 (a)(1))(See U2 Comment #1)

b. SO₂

- i. The owner or operator shall not cause to be discharged into the atmosphere from emission point GT13 any gases which contain sulfur dioxide in excess of 0.015 percent by volume at 15% O₂ and on a dry basis. (40 CFR 60.333(a))(See U2 Comment #2)
- ii. The owner or operator shall not burn in emission point GT13 any fuel which contains sulfur in excess of eight tenths of a percent (0.8%) by weight. (40 CFR 60.333(b))(See U2 Comment #3)
- iii. For Emission Point GT13, Appendix A, Phase II Acid Rain Requirements is attached and considered part of this Title V operating permit. (Reg. 6.47, Section 3.5, referring to 40 CFR Part 76)

c. 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 5.01 and 5.21) (See U2 Comment #9)

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

The owner or operator shall record, on the first working day after the end of each month, the below listed items and shall maintain the required records for a minimum of five (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 hours of operation for the month and the total hours of operation for the twelve consecutive month period.
- ii. The owner or operator shall maintain monthly, records of the amount of fuel combusted by the unit for the month and the twelve consecutive month period, and calculate the monthly total and twelve consecutive month period total for NO_x emitted, to demonstrate ongoing compliance with the annual limit for NO_x emissions per Specific condition S1.a.ii.
- iii. The owner or operator shall monthly calculate and record the twelve (12) consecutive month period total of NO_x emissions from the GT13, utilizing the emission factor obtained from the NO_x Heat Rate Curve/CEM Data sheet submitted with the latest stack test received by District and the formula shown below, unless the another method is approved by the District, so as long as the unit meets the definition of a peaking unit:

$$E_{\text{NO}_x} = (\text{EF})(1,020 \text{ MMbtu/MMcf})(X)(1 \text{ ton}/2,000 \text{ lb})$$

Where: E_{NO_x} = NO_x emissions (tons) during a consecutive 12-month period

EF = NO_x stack test emission factor in lb NO_x /MMbtu (See U2 Comment #4)

X = the amount of natural gas (MMcf) combusted during the consecutive 12-month period

- iv. The owner or operator shall monthly calculate and record the twelve (12) consecutive month period plantwide total of NO_x emitted that is obtained by summing the NO_x emissions produced by E11 plus E12 plus E13 to insure the total NO_x emitted does not exceed the plantwide limit per S1.a.i.
- v. The owner or operator shall maintain monthly records of the amounts of electrical power produced by the unit for the month and the total electrical power produced by the unit for the calendar year, to insure the unit is meeting the definition of a peaking unit per S1.a.iii.
- vi. The owner or operator shall each year calculate and record, the three year average capacity factor for the previous three years rolling block period to show the compliance with the definition of a peaking unit per section S1.a.iii.
- vii. The owner or operator shall use the certified CEMS data to calculate the monthly NO_x emissions from GT13, in lieu of the formula in S2.a.iii, if the unit exceeds the limits of the definition of a peaking unit in S1.a.iii.
- viii. The owner or operator shall, if required, install, certify, maintain, operate, and quality – assure a NO_x - diluent continuous emission monitoring system (CEMS) consisting of NO_x and O_2 monitors. As an alternative, a CO_2 monitor may be used to adjust the measured NO_x concentrations to 15 percent O_2 by either converting the CO_2 hourly averages to equivalent O_2 concentrations using Equation F-14a or F-14b in Appendix F to Part 75 of this chapter and making the adjustments to 15 percent O_2 , or by using the CO_2 readings directly to make the adjustments, as described in Method 20. If the option to use a CEMS is required, the CEMS shall be installed, certified, maintained and operated as follows: (40 CFR 60.334(b))
 - 1) Each CEMS must be installed and certified according to PS 2 and 3 (for diluent) of 40 CFR part 60, appendix B, except the 7-day calibration drift is based on unit operating days, not calendar days. Appendix F, Procedure 1 is not required. The relative accuracy test audit (RATA) of the NO_x and diluent monitors may be performed individually or on a combined basis, i.e., the relative accuracy tests of the CEMS may be performed either: (40 CFR 60.334(b)(1))

- (a) On a ppm basis (for NO_x) and percent O₂ basis for oxygen; or (40 CFR 60.334(b)(i))
 - (b) On a ppm at 15 percent O₂ basis; or (40 CFR 60.334(b)(ii))
 - (c) On a ppm basis (for NO_x) and percent CO₂ basis (for a CO₂ monitor that uses the procedures in Method 20 to correct the NO_x data to 15 percent O₂). (40 CFR 60.334(b)(iii))
- 2) As specified in §60.13(e)(2), during each full unit operating hour, each monitor must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each 15-minute quadrant of the hour, to validate the hour. For partial unit operating hours, at least one valid data point must be obtained for each quadrant of the hour in which the unit operates. For unit operating hours in which required quality assurance and maintenance activities are performed on the CEMS, a minimum of two valid data points (one in each of two quadrants) are required to validate the hour. (40 CFR 60.334(b)(2))
- 3) For purposes of identifying excess emissions, CEMS data must be reduced to hourly averages as specified in §60.13(h). (40 CFR 60.334(b)(3))
- (a) For each unit operating hour in which a valid hourly average, as described in paragraph (b)(2) of this section, is obtained for both NO_x and diluent, the data acquisition and handling system must calculate and record the hourly NO_x emissions in the units of the applicable NO_x emission standard under §60.332(a), i.e., percent NO_x by volume, dry basis, corrected to 15 percent O₂ and International Organization for Standardization (ISO) standard conditions (if required as given in §60.335(b)(1)). For any hour in which the hourly average O₂ concentration exceeds 19.0 percent O₂, a diluent cap value of 19.0 percent O₂, may be used in the emission calculations. (40 CFR 60.334(b)(3)(i))
 - (b) A worst case ISO correction factor may be calculated and applied using historical ambient data. For the purpose of this calculation, substitute the maximum humidity of ambient air (H_o), minimum ambient temperature (T_a), and minimum combustor inlet absolute pressure (P_o) into the ISO correction equation. (40 CFR 60.334(b)(3)(ii))

- (c) If the owner or operator has installed a NO_x CEMS to meet the requirements of Part 75 of this chapter, and is continuing to meet the ongoing requirements of Part 75 of this chapter, the CEMS may be used to meet the requirements of this section, except that the missing data substitution methodology provided for at CFR Part 75, Subpart D, is not required for purposes of identifying excess emissions. Instead, periods of missing CEMS data are to be reported as monitor downtime in the excess emissions and monitoring performance report required in §60.7(c).(40 CFR 60.334(b)(3)(iii))

b. **SO₂**

There are no required monitoring or recording keeping requirements for this pollutant. (See U2 Comment #3)

c. **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. (See U2 Comment #9)
- ii. If a new TAC is introduced or the content of a TAC in a raw material increases, the owner or operator shall re-evaluate the environmental acceptability and document the environmentally acceptable emissions.

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, so long as the unit meets the definition of a peaking unit. If the unit exceeds the limits of a peaking unit and certified CEMS are installed, quarterly reporting of the CEMS data will be required per 40 CFR 75.64. 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. The compliance reports shall be postmarked within 60 days following the end of each reporting period. All compliance reports shall include the following certification statement per Regulation 2.16, section 3.5.11. (See U2 Comment #5)

a. **NO_x**

- i. The monthly totals and the monthly twelve (12) consecutive month period totals of tons of NO_x emitted from GT13.

- ii. The owner or operator shall identify all periods of exceeding the 90 tn/yr 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;
 - 5) A description of all corrective actions taken to abate the deviation; and
 - 6) If no deviations occur during a quarterly reporting period, the report shall contain a negative declaration.
 - iii. The annual emission inventory may count as the second semi-annual compliance report (or the fourth quarterly compliance report, if the unit exceeds the limits of a peaking unit and quarterly reporting of CEMS is required) so long as the annual emission inventory is received by the District by the second semi-annual (or fourth quarter if reporting CEMS) compliance report due date, March 1, of each year and contains the information required by S3.a.i. and S3.a.ii. (See U2 Comment #16)
 - iv. The owner or operator shall notify the District within 60 calendar days of the unit exceeding the limits of the definition of a peaking unit and provide the date that certified CEMs data will be available for calculating NO_x emissions.
- b. **SO₂**
- i. There are no compliance reporting requirements for this pollutant. (See U2 Comment #3)
 - ii. The owner or operator shall report excess emissions, that exceed the allowances transferred, and the necessary plans and procedures as required by 40 CFR Subpart 77, Excess Emissions.
- c. **TAC**
- i. Within 6 months of a change of a raw material as described in S2.d.ii, the owner or operator shall submit the re-evaluated EA demonstration to the District. (See U2 Comment #9)
 - ii. The owner or operator shall report any conditions that were inconsistent with those conditions analyzed in the most recent Environmental Acceptability Demonstration or an Negative Declaration stating that operations were within the conditions analyzed. This includes, but is not limited to, control device upset conditions

- iii. For any conditions outside the analysis, the owner or operator shall re-analyze to determine whether these conditions comply with the STAR program.

S4. **Testing** (Regulation, 2.03, section 5.1)

a. **NO_x**

- i. The owner or operator shall perform the required EPA Reference method performance test on GT13 emissions to determine a NO_x emission factor in lb/MMbtu at a frequency of at least once every 20 calendar quarters, or as required by the current regulations, to be used in the alternate method for calculating NO_x emissions as allowed by 40 CFR 75 Appendix E.
- ii. 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.
- iii. 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 the 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, percentage of operating capacity) that will 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 test. Attached to the permit is a Protocol Checklist for Performance Test for the information to be submitted in the protocol.
- iv. The owner or operator shall be responsible for obtaining and analyzing the audit samples when required by the EPA Reference method. The audit samples shall be available for verification by the District during the onsite testing. (See U2 Comment #11)
- v. 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.
- vi. 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 the completion of the performance test.

U2 Comments

1. A stack test performed on June 25, 2001, through June 28, 2001, indicated the NO_x emissions based on 100% load to be 17.7 ppmv at 15% O₂ and on a dry basis. Therefore there is no monitoring, recordkeeping, or reporting requirements for U2 Specific Condition S1.a.v.
2. The sulfur dioxide is assumed to be emitted at a rate of 0.0026 lb/MMbtu, which is the default value from 40 CFR 75, Appendix D, section 2.3.2.1.1. This equates to 0.00298% SO₂, which is well below the standard of 0.015%. Therefore, there is no monitoring, record keeping, or reporting requirements for U2 Specific Condition S1.b.i.
3. The percent sulfur in natural gas was tested on 03/09/2000, 06/08/2000, 09/28/2000, and 12/13/2000. The values for sulfur content were 0.00026%, 0.00029%, 0.00020%, and 0.00027% respectively. The average was 0.000255%, which is well below the standard of 0.8%. Therefore, there is no monitoring, record keeping, or reporting requirements for U2 Specific Condition S1.b.ii.
4. Emission factors from previous stacks tests for the pollutant NO_x are approximately 0.068 lb /MMbtu.
5. The report periods and due dates for the semi-annual reports required by this emission unit are as listed in General Condition #14, Monitoring and Related Record Keeping and Reporting Requirements.
6. The company submitted a letter dated October 20, 1998, requesting a plant-wide NO_x limit of less than 100 tn/yr in order to avoid NO_x RACT and PSD/Nonattainment NSR. This limit ensures that the company is not required to comply with the RACT requirements of Regulation 6.42.
7. The Risk Management Plan (RMP) was addressed by company's written response in letter of 1975, and is not required for this facility.
8. The Siemens Westinghouse turbine GT13 was installed per construction permit 48-00-C.
9. 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)
10. 40 CFR 60 Subpart KKKK – Standards of Performance for Stationary Combustion Turbines is not applicable because construction commenced prior to February 18, 2005.

11. 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, not the regulatory agency, directly from accredited audit sample suppliers.
12. GT13 does not have a cranking diesel RICE, because the generator is a combination starter/generator.
13. LG&E submitted a request, dated May 16, 2012, requesting a NO_x emission limit of less than or equal to 90 tn/yr for GT13. Additionally, the Title V renewal application signed June 11, 2004, requested the 90/tn/yr limit for GT13.
14. 40 CFR Part 76, Acid Rain Nitrogen Oxides Emission Reduction Program, is not applicable because it applies to nitrogen oxides emissions produced by coal fired units.
15. 40 CFR Part 78, Appeal Procedures for Acid Rain Program, applies only to appeal procedures pertaining to the acid rain program.
16. The quarterly 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 st through March 31 th	May 30 th
April 1 st through June 30 th	August 29 th
July 1 st through September 30 th	November 29 th
October 1 st through December 31 st	March 1 st

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 owner or operator requested the below operating flexibility items in the TV permit renewal application to be incorporated into the permit.

1. Relocation of equipment within the facility.
2. Replacement or installation of new machines. Change of materials used in emission units.
3. Utilization of new coolants and additives in the coolant systems.
4. Utilization of new cleaning agents and additives in parts washers.
5. Replacement or installation of additional emergency generators.
6. Change of materials stored in storage tanks.
7. Utilization of new materials.
8. Replacement or installation of additional machines, welding, spray painting, sawing, sandblasting, etc. stations in maintenance shops.

Operating flexibility items #2, #5, and #8 are denied. Proper permits shall be obtained from the District, per the applicable regulations pertaining to additional equipment.

Operating flexibility items #4, #6, and #7 shall continue to be regulated by applicable regulations but are approved for operational flexibility.

Compliance Assurance Monitoring

Louisville Gas & Electric, Paddy's Run Station is not subject to 40 CFR Part 64 - *Compliance Assurance Monitoring for Major Stationary Sources*, since each emission point has no supplementary control device for NO_x or CO emissions.

Insignificant Activities

Equipment	Quantity	PTE (tn/yr)	Basis for Exemption
Brazing, soldering or welding, plant maintenance use only	1 portable	N/A	Regulation 2.16, sec. 1.43, trivial activity, footnote 7
Emergency relief vents	1	N/A	Regulation 2.02, sec. 2.3.10
Diesel Fuel Storage tank, 150 gal	1	8×10^{-4} VOC	Regulation 2.02, sec. 2.3.9.2
Diesel Fuel Storage tank, 500 gal	1	6×10^{-4} VOC	Regulation 2.02, Sec 2.3.9.2
50/50 Glycol-water tank, 1,238 gal, pressurized	1	N/A	Regulation 2.02, Sec 2.3.26
Lube Oil tank, 4,630 gal	1	5×10^{-5} VOC	Regulation 2.02, Sec 2.3.9.2
Lube Oil tank, 1,730 gal	1	2×10^{-5} VOC	Regulation 2.02, Sec 2.3.9.2
Lube Oil tank, 1,500 gal	1	2×10^{-5} VOC	Regulation 2.02, Sec 2.3.9.2
Lube Oil tank, 245 gal	1	5×10^{-6} VOC	Regulation 2.02, Sec 2.3.9.2

- 1) Insignificant Activities identified in District Regulation 2.02, section 2, 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 2.02, section 2, shall comply with generally applicable requirements as required by Regulation 2.16, section 4.1.9.4
- 3) 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.
- 4) Emissions from Insignificant Activities shall be reported with the annual Emission Inventory, submitted to District on or before April 15 of the following year.
- 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 quantity listed in the Insignificant Activities table, as the annual emission for each piece of equipment, since the emissions from the source's Insignificant Activities are very minor in comparison to the plant wide emissions.
- 5) The Insignificant Activities Table is correct as of the date the permit was proposed for review by U.S. EPA, Region 4.

- 6) The company 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.
- 7) Title V Listing of “Trivial Activities” footnote #3: “..... Brazing, soldering, welding and cutting torches directly related to plant maintenance and upkeep and repair or maintenance shop activities that emit HASP metals are treated as trivial and listed separately in this appendix.”

Protocol Checklist for Performance Test

A completed protocol should include the following information:

- Facility Name, Location, and ID #;
- Responsible Official and Environmental Contact Names;
- Permit #s which are requiring the test to be conducted;
- Test methods to be used (i.e. EPA Method 1, 2, 3, 4, and 5);
- Alternative test methods or description of modifications to the test methods to be used;
- Purpose of the test including equipment, and pollutant to be tested; the purpose may be described in the permit which requires the test to be conducted or may be to show compliance with a Federal Regulation or emission standard;
- 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);
- Maximum rated production capacity of the system;
- Production rate goal to be achieved during the performance test for demonstration of compliance;
- Method to be used for determining rate of production during the performance test;
- Method to be used for determining rate of production during subsequent operations of the process equipment to demonstrate compliance;
- Description of normal operation cycles;
- Discussion of operating conditions that tend to cause worse case pollution emissions; it is specifically important to clarify this if worst case emissions do not come from the maximum production rate;
- Process Flow Diagram;
- List the type and manufacturer of the control equipment if any;
- List the Control Equipment (baghouse, scrubber, condenser, etc.) parameter data to be monitored and recorded during the performance test; note that these will be used to ensure representative operation during subsequent operations; this can include pressure drops, flow rates, pH, and temperature; since the parameters achieved during the test may be required during subsequent operations describe what pressure drops, etcetera, are indicative of good operating performance; and
- Generally describe the proposed test, how it will be conducted, how measurements will be taken, and how quality assurance and accuracy of the data will be maintained.
- How quality assurance and accuracy of the data will be maintained, including;
 - Sample identification and chain-of-custody procedures;

- Are Audit samples required for this test Method (EPA contact number for Audit Samples 919-541-1062) if yes then please make samples available to the District for observation during the stack test;
 - Audit Sample Provider;
 - Number of Audit Samples to be used:

- Pipe, duct, stack, or flue diameter to be tested;
- 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;
- 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 is >12”
 - Method 1a if stack is between 4” and 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 Section 11.5 allows for the determination of gas flow angles at the sampling points and comparison of the measured results with acceptability criteria.

End of operating permit

Appendix A

Title IV Phase II Acid Rain Requirements

Statutory and Regulatory Authorities: In accordance with KRS Chapter 77 and Titles IV and V of the Clean Air Act, the Air Pollution Control District of Jefferson County issues this permit pursuant to Regulations 2.16 and 6.47.

Acid Rain Conditions

1. **SO₂ Allowance Allocations for Unit U2**

Unit U2: SO ₂ Allowances	SO ₂ Allowances for Years 2008 - 2009	SO ₂ Allowances for Years 2010 and Beyond
Table 2 of 40 CFR 73	0*	0*
	GT13 was a new unit and is not eligible for an SO ₂ allowance allocation under 40 CFR 73 Subpart B, §73.10(b) Phase II Allowances. A minimum balance of “0” SO ₂ allowances shall be maintained in the account. If there are not enough SO ₂ allowances to cover the SO ₂ produced by GT13 for the calendar year, SO ₂ allowances shall be transferred to the GT13 account by the allowance transfer deadline ¹ by March 1 of the following calendar year, to maintain a minimum balance of “0” SO ₂ allowances.	

¹ Allowable transfer deadline by definition is midnight of March 1 and is the deadline by which allowances may be submitted for recordation in an affected source’s compliance account for the purposes of meeting the source’s Acid Rain emissions limitation requirements for the sulfur dioxide for the previous calendar year.(CFR 72 Subpart A §72.2, CFR 73 Subpart B §73.20(d)(2))

* The number of allowances actually held by an affected source in a unit account may differ from the number allocated by U.S. EPA. Neither of the aforementioned conditions necessitates a revision to the unit SO₂ allowance allocations identified in this permit (See 40 CFR 72.84). The number of allowances allocated to Phase II affected units by US EPA may change under 40 CFR Part 73.

In May 2002, the unit obtained 29 vintage 2002 SO₂ allowances from Cane Run Unit 3 and obtained 50 vintage 2001 SO₂ allowances from Mill Creek Unit 1.

2. NO_x Requirements for Unit U2

Unit U2: NO_x Requirements	
NO _x Limit	The owner/operator requested a synthetic NO _x limit for the unit of less than or equal to 90 tn/yr. NO _x emissions shall be calculated per the alternate method allowed by 40 CFR 75 Appendix E for peaking units. If the operations exceed the levels required to be a peaking unit, per the definition of a peaking unit per regulation 72.2, the owner/operator shall install and certify a NO _x – diluent continuous emission monitoring system, no later than December 31 of the following calendar year, that shall then be used to calculate the NO _x emissions.

Comments, Notes, and Justifications:

- (1) The affected emission unit GT13 is one (1) natural gas-fired, simple cycle, turbine powered, peaking, electrical generating unit. Units GT11 and GT12 are existing simple cycle combustion turbines that commenced commercial operation before November 15, 1990, and are exempt from the Acid Rain Program. (40CFR72 Subpart A §72.6(b)(1))

Permit Application:

The Louisville Gas & Electric Company submitted the Title V Permit Renewal Application for the Paddy’s Run Station, dated June 15, 2004, and signed by Paul Thompson. The owners and operators of Louisville Gas and Electric Company must comply with the standard requirements and special provisions set forth in the application.

NO_x Compliance Plan:

Pursuant to 40 CFR 75, the owners and operators of Louisville Gas & Electric Company shall comply with the alternative method of calculating NO_x emissions per the alternate method allowed by 40 CFR 75 Appendix E for peaking units. If the limits of a peaking unit definition are exceeded, certified CEMS shall be installed and the CEMS data shall be used to calculate the NO_x emissions.

End of document