

**Air Pollution Control District
Jefferson County, Ky
1 October 2002**

TITLE V PERMIT SUMMARY

Company: Louisville Gas & Electric Company, Cane Run Generating Station

Plant Location: 5252 Cane Run Road, Louisville, Kentucky 40232

Date App. Received: 21 February 1997

Date Admin. Complete: 18 April 1997

Date of Draft Permit: 17 December 2000

Date of Proposed Permit: 13 August 2002

District Engineer: John McCarthy

Permit No.: 175-00-TV

Plant ID: 0126

SIC Code: 4911

NAICS: 221112

AFS: 00126

Introduction:

This permit will be issued pursuant to: (1) District Regulation 2.16, (2) Title 40 of the Code of Federal Regulations Part 70, and (3) Title V of the Clean Air Act Amendments of 1990. Its purpose is to identify and consolidate existing District and Federal air requirements and to provide methods of determining continued compliance with these requirements.

Jefferson County is classified as of the date above as an attainment area for lead (Pb), sulfur dioxide (SO₂), nitrogen oxides (NO_x), carbon monoxide (CO), particulate matter (PM), particulate matter less than 10 microns (PM₁₀), and ozone (O₃) (1 hour standard); unclassifiable for particulate matter less than 2.5 microns (PM_{2.5}) and ozone (O₃) (8 hour standard).

Application Type/Permit Activity:

Initial Issuance

Permit Revision

Administrative

Minor

Significant

Permit Renewal

Compliance Summary:

Compliance certification signed

Compliance schedule included

Source is out of compliance

I. Source Description

1. **Class I Area Impacts:** This source is not located in or near a Class I area.
2. **Product Description:** Louisville Gas & Electric-Cane Run Generating Station generates electric energy for local and remote distribution.
3. **Overall Process Description:** Coal is the primary fuel used to fire three utility boilers for generation of electricity via steam turbines and generators.
4. **Site Determination:** There are no other facilities which are contiguous or adjacent and under common control.
5. **Emission Unit Summary:**

Emission Units U-1, U-2, and U-3: These units are retired and inoperative.

Emission Unit U-4, one utility boiler: Nominal rating of 1639 MMBtu, with emission control devices consisting of an electrostatic precipitator (ESP), a sulfur dioxide removal system (SDRS) for SO₂ removal from the boiler flue gas, and a dry centrifugal dust collector for the coal bunker. Coal is the primary fuel. Natural gas is the secondary fuel.

Emission Unit U-5, one utility boiler: Nominal rating of 1857 MMBtu, with emission control devices consisting of an electrostatic precipitator (ESP), a sulfur dioxide removal system (SDRS) for SO₂ removal from the boiler flue gas, and a dry centrifugal dust collector for the coal bunker. Coal is the primary fuel. Natural gas is the secondary fuel.

Emission Unit U-6, one utility boiler: Nominal rating of 2453 MMBtu, with emission control devices consisting of an electrostatic precipitator (ESP), a sulfur dioxide removal system (SDRS) for SO₂ removal from the boiler flue gas, and a dry centrifugal dust collector for the coal bunker. Coal is the primary fuel. Natural gas is the secondary fuel.

Emission Unit U-11, one gas combustion turbine: Nominal rating of 247 MMBtu. Natural gas is the primary fuel. Number 2 fuel oil is the secondary fuel.

Emission Unit U-7, sludge processing plant(SPP): Consisting of silos, a transfer bin system, mixers, baghouses and water chamber particulate separation devices.

Emission Unit U-8, one soda ash storage silo: A silo with a baghouse.

Emission Unit U-9, stage I gasoline refueling station: Including one unleaded gasoline storage tank.

Emission Unit U-10, material handling of fossil fuel: Consisting of a radial stacker, coal crusher, and coal conveying system.

Emission Unit U-12, Non-halogenated cold solvent parts cleaners

6. **Fugitive Sources:** Coal loading and unloading, coal pile and flyash handling operations.

7. **Title V Major Source Status by Pollutant:**

Pollutant	Actual Emissions (tpy) 2000 Data	Major Source Status (based on PTE)
CO	378.9	Yes
NO _x	7508.8	Yes
SO ₂	17302	Yes
PM	1316	Yes
VOC	52	No
Total HAPs*	127.4	Yes

* EPA is considering standards for HAP emissions from electric utility boilers

8. **MACT Standards:** This source is not subject to any MACT Standards. There are no cooling towers at this facility.

9. **Applicable Requirements:**

PSD NSPS SIP Other
 NSR NESHAPS District-Origin MACT

10. **Referenced Federal Regulations in Permit:**

40 CFR 60 Subpart A General Provisions

40 CFR 60 Subpart Y Standards of Performance for Coal Preparation Plants

40 CFR Part 72 Permits Regulation

40 CFR Part 73 Sulfur Dioxide Allowance System

40 CFR Part 74 Sulfur Dioxide Opt-ins

40 CFR Part 75 Continuous Emission Monitoring

40 CFR Part 76 Acid Rain Nitrogen Oxides Emission Reduction Program

40 CFR Part 77 Excess Emissions

40 CFR Part 78 Appeals Procedures for Acid Rain Program

II. Regulatory Analysis

1. **Emission and Operating Caps:** The source is not subject to any plant-wide emission or operating caps.
2. **Compliance Status:** The source signed and submitted a Title V compliance certification in its permit application.
3. **Operational Flexibility:** The source has the option of using different fuels or fuel blends for emission units U-4 through U-6.
4. **Testing Requirements:** The source shall perform PM emissions testing for each of the generating units, U-4 through U-6, at least annually. The source shall perform weekly Method 9 opacity test for units U-4 through U-6 and weekly or monthly opacity surveys for units U-7, U-8, and U-10.
5. **Monitoring, Recordkeeping and Reporting Requirements:** The source is required to monitor, maintain records of, and report on various operating parameters to demonstrate compliance with all applicable requirements. Compliance reporting is required quarterly for the boilers and turbine, and semi-annually for the sludge processing, the soda ash silo, and the material handling.

The Boilers (U4-U6) periodic monitoring is accomplished by using CEMs for the pollutants NO_x and SO₂. Periodic monitoring for PM is accomplished by an annual EPA Reference Method 5 stack test and daily monitoring of operating parameters for the ESP and wet scrubber to demonstrate that the control equipment is operating properly. Periodic monitoring for opacity is accomplished by performing a weekly Method 9, daily monitoring of operating parameters for the ESP and wet scrubber to demonstrate that the control equipment is operating properly, and to correlate the data from the PM stack test with the COM opacity readings to set a trigger level for performing another PM stack test. The company performed a stack test for PM on September 28, 1999 for U-6 and the results showed that the average ESP efficiency was 96.2% and the average wet scrubber efficiency was 79.6 %. The stack test showed the PM emissions after the control devices to be 0.056 lb/MMBtu, which is below the standard of 0.11 lb/MMBtu. For the ash handling systems (E2, E4, and E6), periodic monitoring is accomplished by weekly or monthly visual emissions surveys. The potential PM emissions can not exceed the standards. Therefore, the District has determined that the monitoring is sufficient to demonstrate compliance.

The Natural Gas Turbine (U11) periodic monitoring is accomplished by keeping records of the amount of fuel combusted and the operating hours.

The Sludge Processing (U7), Soda Ash Silo (U8), and Material Handling (U10) periodic monitoring is accomplished by weekly or monthly visual emissions surveys. The potential PM emissions can not exceed the standards.

The Cold Solvent Parts Cleaners (U12) periodic monitoring is accomplished by keeping records of each solvent purchase and monthly inspections to verify compliance.

6. Off-Permit Documents: None

The District considers an “off-permit document” as a document on which a source’s compliance with given regulation(s) is contingent or which contains regulatory requirement(s), but is only referenced in a source’s Title V Operating Permit. The designation “off-permit document” shall be made at the District’s discretion, and may include, but not be limited to, documents such as Regulation 1.05 VOC compliance plans, PMPs, MOCS; or other documents which are too voluminous to be included in a source’s Title V Operating Permit, as determined by the District.

III. Other Requirements

- 1. Temporary Sources:** The source did not request to operate any temporary sources.
- 2. Short Term Activities:** The source did not report any short term activities.
- 3. Compliance Schedule/Progress Reports:** The source has certified compliance with all applicable requirements; therefore, no compliance schedule or progress reports are necessary.
- 4. Emissions Trading:** Applicable to Title IV acid rain credits and Title I NO_x allowances.
- 5. Acid Rain Requirements:** The source is subject to the Acid Rain Program. The owner or operator shall comply with the acid rain requirements according to 40 CFR Parts 72, 75 and 76 for Group I boilers. Louisville Gas & Electric Company has chosen to meet the early election NO_x requirements for Group I Phase II boilers.
- 6. Stratospheric Ozone Protection Requirements:** Title VI of the CAAA regulates ozone depleting substances and requires a phase-out of their use. This rule applies to any source that manufactures, sells, distributes, or otherwise uses any of the listed chemicals. This source does not use any of the listed chemicals.
- 7. Prevention of Accidental Releases 112(r):** The source does not manufacture, process, use, store, or otherwise handle one or more of the regulated substances listed in 40 CFR 68 Subpart F and Regulation 5.15, Chemical Accident Prevention Provisions, in a quantity in excess of the corresponding specified threshold amount. If the source becomes subject to 40 CFR 68 and Regulation 5.15, the source shall

comply with the Risk Management Program and Regulation 5.15 and submit a Risk Management Plan to:

RMP Reporting Center
P.O. Box 3346
Merrifield, VA 22116-3346

- 8. Insignificant Activities:** The following activities identified in the Title V permit application have been determined by the District to be insignificant.

Insignificant Activities		
Description	Quantity	Basis
Fuel or Lubricating oils storage tanks with vapor pressure <10mm Hg @ 20 deg C	Various	Regulation 2.02, section 2.3.9.2
Storage tanks-diesel or fuel oil-not for sale, resale or distribution-annual turnover <2X capacity	Various	Regulation 2.02, section 2.3.25
Minor combustion sources <10 MMBtu/hr	Various	Regulation 2.02, section 2.1.1
Internal combustion engines	Various	Regulation 2.02, section 2.2
Brazing, soldering, or welding equipment	Various	Regulation 2.02, section 2.3.4
Emergency relief vents for boiler steam supply	Various	Regulation 2.02, section 2.3.10
Lab exhaust systems	Various	Regulation 2.02, section 2.3.11
Soil or groundwater remediation projects-passive or total removal	Various	Regulation 2.02, section 2.3.20
Portable fuel storage tanks (capacity less than 500 gallons)	Various	Regulation 2.02, section 2.3.23
Ashpond with wet storage	1	No applicable regulation
Infrequent evaporation of boiler cleaning solutions	Various	No applicable regulation
Infrquent burning of deminimus quantities of used oil for energy recovery	Various	No applicable regulation
Enclosed sandblasting equipment	Various	No applicable regulation

Insignificant Activities		
Description	Quantity	Basis
Landfill	1	No applicable regulation
Paved and Unpaved Roads	Various	No applicable regulation

- A. Insignificant Activities are only those activities or processes falling into the general categories defined in Regulation 2.02, Section 2, and not associated with a specific operation or process for which there is a specific regulation. Equipment associated with a specific operation or process (Emission Unit) shall be listed with the specific process even though there may be no applicable requirements. Information contained in the permit and permit summary shall clearly indicate that those items identified with negligible emissions have no applicable requirements.

- B. Activities identified In Regulation 2.02, Section 2, may not require a permit and may be insignificant with regard to application disclosure requirements but may still have generally applicable requirements that continue to apply to the source and must be included in the Title V permit.
 - i. No facility, having been designated as an insignificant activity, shall be exempt from many generally applicable requirements which shall include a 20% opacity limit for facilities not otherwise regulated.
 - ii. No periodic monitoring shall be required for facilities designated as insignificant activities.

- C. The Insignificant Activities table is correct as of the date of the permit was proposed for review by the USEPA, Region 4. The company shall submit an updated list of insignificant activities annually with the Title V compliance certification pursuant to District Regulation 2.16, section 4.3.5.3.6.