

Air Pollution Control Board of Jefferson County Board Order - Amendment 2

This amended Board Order is issued by the Air Pollution Control Board of Jefferson County pursuant to the authority granted in Kentucky Revised Statutes Chapter 77 Air Pollution Control.

Company: Louisville Medical Center Steam Plant (Medical Center)
235 Abraham Flexner Way
Louisville, Kentucky 40202

Background and Discussion

Regulation 6.42 *Reasonably Available Control Technology Requirements for Major Volatile Organic Compound- and Nitrogen Oxides-Emitting Facilities* requires the establishment and implementation of reasonably available control technology (RACT) for certain affected facilities that emit oxides of nitrogen (NO_x) and that are located at a major stationary source for NO_x. Section 4.4 requires that each determination of RACT approved by the Air Pollution Control District of Jefferson County (now Louisville Metro Air Pollution Control District, "District") be submitted to the U.S. Environmental Protection Agency (EPA) as a site-specific revision of the Kentucky State Implementation Plan (SIP).

The initial Board Order was approved by the Board on November 8, 1999, and submitted to the EPA by the Kentucky Natural Resources and Environmental Protection Cabinet (KNREPC) on November 12, 1999, as a site-specific revision of the Kentucky SIP. Subsequently, the EPA identified issues needing resolution before a NO_x RACT determination would be approved as part of the Kentucky SIP. An amended Board Order, approved by the Board on February 21, 2001, addressed those issues. That amended Board Order was submitted to the EPA by the KNREPC on July 9, 2001, and approved by the EPA as a revision of the Kentucky SIP on October 23, 2001.

The Medical Center has now requested an amendment to Board Order - Amendment 1 that changes the fuel for Boiler #1 from coal to natural gas and removes the 10.0% seasonal capacity factor, allowing full operation of Boiler #1. This amended Board Order addresses that request.

A Public Hearing on this amended Board Order was held before the Board on March 19, 2008. Based upon the evidence presented at that hearing, the Board determined that approval of this amended Board Order and submittal as a site-specific revision of the Kentucky SIP were appropriate.

Now therefore be it ordered that:

1. The attached NO_x RACT Plan - Amendment 2, applicable to the Medical Center, is approved by the District. The Medical Center shall comply with this plan.

2. Compliance with the attached NO_x RACT Plan - Amendment 2 shall be deemed compliance with the requirements of Regulation 6.42 section 1.2, section 1.3, Section 2 to the extent that this Section applies to section 4.3, section 4.3, and Section 5 to the extent that this Section applies to verification of compliance with the requirements pursuant to section 4.3.
3. This amended Board Order shall not be deemed or construed to be the result of any violation of any federal, state, or local statute, regulation, or ordinance for any purpose whatsoever.
4. The Medical Center has reviewed this amended Board Order and consents to all its requirements and terms.
5. The effective date of this Board Order is March 24, 2008.

Dated this 19th day of March, 2008.

Louisville Metro
Air Pollution Control Board

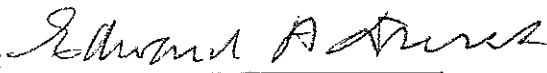
By:


Dr. Karen Cassidy

Chair

Louisville Medical Center Steam Plant

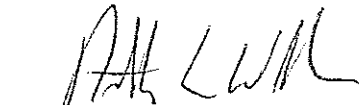
By:



Edward A. Dusch
General Manager

Louisville Metro
Air Pollution Control District

By:




Arthur L. Williams
Director

Approved as to form and legality:

Louisville Metro
Air Pollution Control District

By:



Lauren Anderson
Attorney

NO_x RACT Plan - Amendment 2

1. The oxides of nitrogen (NO_x, expressed as NO₂) emission from each of Boiler #2, Boiler #4, and Boiler #5 while natural gas is combusted in that boiler shall not exceed 0.20 pound per million Btu of heat input.
2. The NO_x (expressed as NO₂) emission from Boiler #1 while natural gas is combusted shall not exceed 0.10 pound per million Btu of heat input.
3. The NO_x (expressed as NO₂) emission from each of Boiler #4, Boiler #5, and Boiler #6 while coal is combusted in that boiler shall not exceed 0.50 pound per million Btu of heat input.
4. The Louisville Medical Center Steam Plant (Medical Center) shall conduct an annual performance test for NO_x for each of Boiler #1, Boiler #2, Boiler #4, Boiler #5, and Boiler #6. If the requirements of Regulation 6.42 *Reasonably Available Control Technology Requirements for Major Volatile Organic Compound- and Nitrogen Oxides-Emitting Facilities* section 5.1 are met, and subject to the annual performance test schedule reinstatement provision, performance testing may be done on a biennial schedule. Performance testing shall meet the following requirements:
 - A. Emissions concentrations and the mass determinations shall be obtained using Reference Methods of 40 CFR Part 60 Appendix A. The following methods shall be used:
 - (1) Method 1 or 1A, which furnishes guidance in site and traverse selection for sampling velocity at traverse points in stationary sources,
 - (2) Method 2, 2A, 2B, 2C, 2D, 2E, 2F, 2G, or 2H, which applies to measurements of gas volumetric flow rates,
 - (3) Method 3, 3A, 3B, or 3C, which is applicable for determining the concentrations of one or more of the following gases: carbon dioxide, O₂, CO, nitrogen, and methane,
 - (4) Method 4, which determines the moisture content in stack gases, and
 - (5) Method 7, 7A, 7B, 7C, 7D, or 7E, which provides the analytical method for determining the concentration of NO_x emissions from stationary sources.
 - B. The use of other Reference Methods that are added to 40 CFR Part 60 Appendix A, alternative tests, or modifications to the Reference Methods listed in NO_x RACT Plan Element (Element) No. 3.A. may be proposed by the Medical Center as part of the testing plan required by Element No. 3.D. Such methods may be used if approved in writing by the Louisville Metro Air Pollution Control District (District).
 - C. Performance testing shall meet the requirements of Regulation 1.04 *Performance Tests* that are not addressed in this Element. All testing shall be conducted at 90% or greater of the maximum rated heat input capacity of the boiler.
 - D. A notification of intent to conduct a performance test shall be submitted to the District at least 25 working days in advance of the projected starting date for the performance test. The notification shall include the proposed test methods to be used.
 - E. If a pre-test conference to discuss the proposed test methods is deemed necessary by the District, a pre-test conference shall be arranged by District personnel.
 - F. At least 10 working days' prior notice of the scheduled starting date for the

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performance test shall be provided to the District.

- G. A performance test report shall be submitted to the District within 60 days of completion of performance testing. The report shall include the quantity and type of fuel combusted during each 1-hr test run and calculations used to determine emissions. The NO_x emission rate shall be expressed in both pounds per hour and pounds per million Btu formats. The raw data shall be retained by the Medical Center for a minimum of 5 years and made available to the District upon request. Selected portions of the raw data used to calculate the emissions shall be included in the report in a format provided by the District.
5. The Medical Center shall, each year prior to April 1, perform and make a record of the following non-routine boiler maintenance activities for Boiler #1, Boiler #2, Boiler #4, Boiler #5, and Boiler #6:
 - A. Inspect the fuel combustion system and, as needed, clean or replace the components of the fuel combustion system,
 - B. Inspect the flame pattern for the boiler and make any needed adjustments to the fuel combustion system to optimize the flame pattern to minimize total emissions of NO_x and carbon monoxide (CO),
 - C. Inspect the combustion control system to determine whether the combustion control system is operating properly and the air-to-fuel ratio is correctly calibrated and make any needed system adjustments or replacements,
 - D. Adjust the air-to-fuel ratio to minimize excess air and maximize boiler efficiency, and
 - E. Inspect all other components of the boiler and make any needed adjustments or repairs to improve boiler efficiency.
 6. The Medical Center shall include in each report pursuant to Element No. 10 a summary of the boiler maintenance activities required by Element No. 5 that occurred during the preceding semi-annual period.
 7. The Medical Center shall, before April 1, 2001, submit to the District a written description of daily activities and procedures that may be conducted by the boiler operators to ensure optimum operating efficiency of Boiler #2, Boiler #4, Boiler #5, and Boiler #6.
 8. Boiler #3 shall have a seasonal capacity factor of no greater than 10.0%. The term "seasonal capacity factor" means the ratio between the actual heat input to a boiler from fuel combusted during the period April 1 through October 31 and the potential heat input to the boiler had it been operated for 24 hours per day for each day during that period at the maximum steady state design heat input capacity. The maximum heat input capacity provided by the manufacturer shall be used unless the Medical Center determines the maximum heat input capacity using the heat loss method described in sections 5 and 7.3 of the ASME *Power Test Codes* 4.1.
 9. The Medical Center shall make a record of the type and amount of fuel combusted during each day of operation of Boiler #3 during the period April 1 through October 31. The Medical Center shall, at the end of each month during this period, calculate and record, for Boiler #3, the seasonal capacity factor based upon the season to date. Each record shall be maintained for a minimum of 5 years and made available to the District upon request.

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10. The Medical Center shall keep a record identifying all deviations from the requirements of this NO_x RACT Plan and shall submit to the District a written report of all deviations that occurred during the preceding semi-annual period. Semi-annual periods shall run from January 1 to June 30 and July 1 to December 31. The report shall contain the following information:
- A. The boiler number,
 - B. The beginning and ending date of the reporting period,
 - C. Identification of all periods during which a deviation occurred,
 - D. A description, including the magnitude, of the deviation,
 - E. If known, the cause of the deviation, and
 - F. A description of all corrective actions taken to abate the deviation.

If no deviation occurred during the semi-annual period, the report shall contain a negative declaration. Each report shall be submitted within 60 days following the end of the semi-annual period.

11. In lieu of the requirements in this NO_x RACT Plan, the Medical Center may comply with alternative requirements regarding emission limitations, equipment operation, test methods, monitoring, record keeping, or reporting, provided the following conditions are met:
- A. The alternative requirements are established and incorporated into an operating permit pursuant to a Title V Operating Permit issuance, renewal, or significant permit revision process as established in Regulation 2.16,
 - B. The alternative requirements are consistent with the streamlining procedures and guidelines set forth in section II.A. of *White Paper Number 2 for Improved Implementation of the Part 70 Operating Permits Program*, March 5, 1996, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards. The overall effect of compliance with alternative requirements shall consider the effect on an intrinsic basis, such as pounds per million Btu,
 - C. The U.S. Environmental Protection Agency (EPA) has not objected to the issuance, renewal, or revision of the Title V Operating Permit, and either
 - D. If the public comment period preceded the EPA review period, then the District had transmitted any public comments concerning the alternative requirements to EPA with the proposed permit, or
 - E. If the EPA and public comment periods ran concurrently, then the District had transmitted any public comments concerning the alternative requirements to EPA no later than 5 working days after the end of the public comment period.

The District's determination of approval of any alternative requirements is not binding on EPA. Noncompliance with any alternative requirement established pursuant to the Title V Operating Permit process constitutes a violation of the NO_x RACT Plan.

History: Approved 11-8-99; effective 1-1-00; amended a1/2-21-01 effective 4-1-01, Proposed: a2/3-19-08 effective 3-24-08.