

Louisville Metro Air Pollution Control Board Board Order – Amendment 3

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

Company: Louisville Medical Center Steam Plant
235 Abraham Flexner Way
Louisville, KY 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 (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 this NO_x RACT determination would be approved as part of the Kentucky SIP. Board Order Amendment 1 was approved by the Board on February 21, 2001. Board Order Amendment 2 was approved by the Board on March 19, 2008.

The Louisville Medical Center Steam Plant has now requested an amendment to Board Order Amendment 2 that removes the 10% seasonal capacity factor for Boiler #3 from the requirements, allowing full operation, since the coal stoker of Boiler #3 has been removed and replaced with a low NO_x natural gas burner. This amended Board Order addresses that request.

Now therefore be it ordered that:

1. The attached NO_x RACT Plan - Amendment 3, applicable to the Louisville Medical Center Steam Plant, is approved by the District. The Louisville Medical Center Steam Plant shall comply with this plan.
2. Compliance with the attached NO_x RACT Plan - Amendment 3 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, and Section 5 to the

NO_x RACT Plan - Amendment 3

1. The oxides of nitrogen (NO_x, expressed as NO₂) emission from each of Boiler #2, Boiler #3, Boiler #4, and Boiler #5 while natural gas is combusted shall not exceed 0.20 pound per million Btu of heat input, based on a 30 day rolling average period.
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, based on a 30 day rolling average period.
3. The NO_x (expressed as NO₂) emission from Boiler #4, Boiler #5, and Boiler #6 while coal is combusted shall not exceed 0.50 pound per million Btu of heat input, based on a 30 day rolling average period.
4. The Louisville Medical Center Steam Plant shall conduct an annual performance test for NO_x for each of the following: Boiler #1, Boiler #2, Boiler #3, 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, 2C, 2D, 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, oxygen, carbon monoxide, 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 60 Appendix A, alternative tests, or modifications to the Reference Methods listed in NO_x RACT Plan Element (Element) No. 4.A. may be proposed by the Louisville Medical Center Steam Plant as part of the testing plan required by Element No. 4.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*, which 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 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 Louisville Medical Center Steam Plant 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 Louisville Medical Center Steam Plant 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 #3, 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,
 - 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 Louisville Medical Center Steam Plant shall include in each report pursuant to Element No. 7 a summary of the boiler maintenance activities required by Element No. 5 that occurred during the preceding semi-annual period.
7. The Louisville Medical Center Steam Plant 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.

- 8. In lieu of the requirements in this NO_x RACT Plan, the Louisville Medical Center Steam Plant may comply with alternative requirements regarding emission limitations, equipment operation, test methods, monitoring, recordkeeping, 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 of heat input. However, alternative requirements that are developed based upon revisions to the applicable requirements contained in 40 CFR Part 60 or Part 75 shall be approvable pursuant to this NO_x RACT Plan Element,
 - 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 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 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 this NO_x RACT Plan.

History: Approved 11-8-99, effective 1-1-00; amended a1/2-21-01, effective 4-1-01; amended a2/3-19-08, effective 3-24-08; amended a3/08-17-13, effective 08-21-13

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 Louisville Medical Center Steam Plant has reviewed this amended Board Order and consents to all its requirements and terms.
5. This amended Board Order is effective on the date of its adoption by the Board.

Dated this 21st day of August, 2013

Louisville Metro Air Pollution
Control Board

By: Robert W. Powell, M.D.
Robert W. Powell, M.D.
Chairman

Louisville Medical Center Steam Plant

By: Edward Dusch
Edward Dusch
General Manager

Louisville Metro Air Pollution
Control District

By: Paul Aud 8-21-13
Paul Aud
Air Pollution Control Officer

Approved as to form and legality:

By: Stacy Fritze Dott
Stacy Fritze Dott
Assistant County Attorney