

217/782-2113

CONSTRUCTION PERMIT

PERMITTEE

Midwest Generation EME, LLC - Joliet Generating Station
Attn: Andrea Crapisi
235 Remington Boulevard, Suite A
Bolingbrook, Illinois 60440

Application No.: 09110025

I.D. No.: 197809AAO

Applicant's Designation:

Date Received: November 11, 2009

Subject: RRI and SNCR Systems for NO_x Control for Unit 6 Boiler

Date Issued: January 28, 2010

Location: Joliet Generating Station, 1800 Channahon Road, Joliet

Permit is hereby granted to the above-designated Permittee to CONSTRUCT equipment consisting of a rich reagent injection (RRI) system and selective non-catalytic reduction (SNCR) system on the Unit 6 boiler, as described in the above referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

- 1a. This permit authorizes construction of an RRI system and SNCR system (the affected systems) on Unit 6 Boiler (the affected boiler) which would inject a reducing reagent into the flue gas of this coal-fired boiler to control emissions of nitrogen oxides (NO_x). The RRI system would inject the reagent prior to the over-fire air (OFA) ports in the furnace of the boiler. The SNCR system would inject reagent further downstream in the boiler. Midwest Generation plans to use urea solution as the reagent for these systems, which would be stored in new storage tanks at the source. The affected systems would facilitate compliance with NO_x requirements of 35 IAC Part 225, Subpart B, which limits NO_x emissions from the group of coal-fired electrical generating units (EGUs) operated by Midwest Generation to 0.11 lbs/million Btu, group average, both annually and during the ozone season, beginning calendar year 2012.
- b. Other than the installation of the affected systems on the affected boiler, this permit does not authorize any changes or modifications to the boiler or the generating unit that would increase its capacity or potential emissions.
- 2a. This permit is issued based on this project being an emissions control project, whose purpose and effect will be to reduce emissions of NO_x from the affected boiler and which will not significantly increase emissions of other PSD pollutants. As such, the terms and conditions of the existing permits will continue to govern emissions and operation of the affected boiler except as specifically indicated.
 - b. i. The emissions of particulate matter (PM) from the increased vehicle traffic for the delivery of urea solution shall not exceed 2.5 tons/year.

- ii. This permit is issued based on negligible PM particulate matter (PM) emissions from the storage tanks for urea solution. For this purpose, PM emissions shall not exceed 0.44 tons/year.
- 3a. This permit does not affect the authorizations in existing operating permits for the affected boiler, pursuant to 35 IAC 201.149, 201.161 and 201.262, that allow the Permittee:
- i. To operate the boiler in violation of certain state emission standards during startup of the boiler or the terms and conditions that accompanied such authorization.
 - ii. To continue to operate the boiler in violation of certain state emission standards during malfunction or breakdown of the boiler, including control devices and ancillary systems, or the terms and conditions that accompanied such authorization.
4. At all times, the Permittee shall, to the extent practicable, maintain and operate the affected systems and associated material storage and handling operations in a manner consistent with good air pollution control practices for minimizing emissions from the affected boiler and the source.
- 5a. For the affected boiler, the Permittee shall comply with all applicable requirements of 35 IAC Part 225, Subparts D and E, related to monitoring of NOx emissions by the dates specified in these rules.
- b. If the operation or rate of reagent injection of an affected system can be adjusted remotely by personnel in the control room, the Permittee shall install, operate, and maintain instrumentation for the status of the system and the rate of reagent injection, respectively.
- 6a. For the affected boiler, the Permittee shall fulfill the applicable requirements of 35 IAC Part 225 Subparts D and E, for recordkeeping related to NOx emissions by the dates specified in these rules.
- b. The Permittee shall maintain the following records for each affected system:
- i. An operating log or other records for the system that, at a minimum, identify the reagent that is being used (e.g., concentration of urea in the urea solution), the setting(s) for reagent injection rate, and each period of time when the affected boiler was in operation (other than startup or shutdown) when the system was not operated, with explanation, e.g., the system was out of service for scheduled maintenance.
 - ii. A maintenance and repair log or other records for the system that, at a minimum, list the activities performed, with date and description.

- c. The Permittee shall retain all records required by this permit at the source for at least 5 years from the date of entry and these records shall be readily accessible to the Illinois EPA for inspection and copying upon request.
- 7a. The Permittee shall notify the Illinois EPA when the affected boiler starts operating with the affected systems.
- b. For the affected boiler, the Permittee shall fulfill applicable reporting requirements of 35 IAC Part 225, Subparts B, D and E, related to NO_x emission. In particular, the Permittee shall comply with the requirement of 35 IAC 225.295(a)(3), which provides that the Permittee shall submit a report to the Illinois EPA not later than one year after startup of the SNCR system on the boiler describing the NO_x emissions reductions that the system has been able to achieve. For this purpose, the Permittee may submit a report that addresses the combined effectiveness of both affected systems.
- c. If there is any deviation from the requirements of this permit, the Permittee shall promptly submit a report to the Illinois EPA as follows. The report shall include a description of the deviation, the corrective actions that were taken, and any measures taken to prevent similar future occurrences.
 - i. Deviations from requirements of applicable rules shall be reported in accordance with the relevant provisions of such rules or otherwise with the periodic reports required by such rules.
 - ii. Other deviations shall be reported within 30 days of the deviation until a CAAPP permit is issued and effective for the source that addresses the requirements of 35 IAC Part 225.
- 8. The Illinois EPA has determined that this project, as described in the application, will not constitute a modification of the boilers under the federal New Source Performance Standards, 40 CFR 60, as the project has the primary function of reducing emissions and therefore is not considered a modification pursuant to 40 CFR 60.14(e)(5).
- 9. Two copies of required reports and notifications shall be sent to the Illinois EPA's Compliance Section at the following address unless otherwise indicated:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276

and one copy shall be sent to the Illinois EPA's regional office at the following address unless otherwise indicated:

Illinois Environmental Protection Agency/Regional Office
Division of Air Pollution Control
9511 West Harrison
Des Plaines, Illinois 60016

10. The affected boiler may be operated with the affected systems pursuant to this construction permit until an operating permit becomes effective that addresses operation of this boiler with these systems.

If you have any questions on this permit, please call Kunj Patel at 217/782-2113.

Edwin C. Bakowski, P.E.
Manager, Permit Section
Division of Air Pollution Control

Date Issued: _____

ECB:CPR:KMP:psj

cc: Region 1