May 30, 2018

Mr. Dale Irwin
General Manager, Greenidge Generation LLC
590 Plant Road
Dresden, NY 14441

Re: Petition to use an alternative monitoring procedure during the period prior to the probationary calibration error test of a replacement stack flow monitoring system at Unit 6 of the Greenidge Electric Generating Station (Facility ID (ORISPL) 2527).

Dear Mr. Irwin:

The United States Environmental Protection Agency (EPA) has reviewed the January 24, 2018 petition[1] submitted under 40 CFR 75.66 by Greenidge Generation LLC (Greenidge), for Unit 6[2] at Greenidge Electric Generating Station, ORIS 2527. In the petition, Greenidge requests authorization to use the monitoring procedures under appendices D and G to 40 CFR part 75 for quantifying heat input rate and SO_2 and CO_2 mass emissions during the period from restart of the unit in February 2017 through May 7, 2017, the date of the successful probationary calibration error test of a newly installed stack flow monitoring system, in lieu of following standard missing data substitution procedures. EPA partially approves the petition, with conditions, as discussed below.

Background

Greenidge owns and operates the Greenidge Electric Generating Station in Dresden, New York. Greenidge Unit 6 has historically been operated as a coal-fired boiler. After making modifications, Greenidge restarted Unit 6 in February 2017 as a primarily natural gas-fired boiler with the capability to burn biomass as well. According to Greenidge, Unit 6 is subject to the Acid Rain Program and trading programs for sulfur dioxide (SO_2) and annual and ozone season nitrogen oxides (NO_X) under the Cross-State Air Pollution Rule. Greenidge is therefore required to continuously monitor and report NO_X, SO_2, and carbon dioxide (CO_2) mass emissions, NO_X emission rate, and heat input rate in accordance with 40 CFR part 75. To continue to meet these monitoring requirements, after making modifications to accommodate the switch from coal to natural gas and biomass, Greenidge replaced the existing NO_X, SO_2, CO_2, and stack flow continuous emission monitoring systems (CEMS) and the data acquisition and handling system (DAHS).

Under § 75.20(b), the replacement of a CEMS initiates a recertification process that includes required testing to demonstrate that the replacement CEMS meets the specifications in appendix A to part 75. The tests required for recertifying the CEMS are outlined in § 75.20(c), and the schedule to complete the recertification tests is described in § 75.20(b)(3)(iv). During the testing period, either emission data may be reported using a reference method or another certified monitoring system or emission data reporting must follow standard missing data substitution procedures until the hour of successful completion of all required tests or the hour of a successful probationary calibration error test initiating the conditional data validation procedures under § 75.20(b)(3)(ii) through (ix).[3] Following the modifications to Unit 6, Greenidge began operating the unit on a very limited basis in February 2017,

[1] The petition dated January 24, 2018 replaces an earlier submitted petition dated January 2, 2018.
[2] The January 24, 2018 petition refers to the unit identified in the petition as "Unit No. 4 (Boiler No. 6)". The monitoring plan submitted by Greenidge for this unit identifies the unit as "Unit 6". EPA will identify the unit as "Unit 6" in this response.
[3] See § 75.20(b)(3)(i). Part 75 standard missing data substitution procedures can be found in §§ 75.33 through 75.37.

combusting only natural gas. Greenidge performed successful probationary calibration error tests for the replacement gas monitoring systems on February 21, 2017 but did not conduct the successful probationary calibration error test of the replacement stack flow monitoring system until May 7, 2017. Under the standard missing data substitution procedures for missing quality-assured stack flow data in § 75.33(c), unless EPA approves an alternate procedure, Greenidge would have to report substitute stack flow rate data for all operating hours prior to May 7, 2017, and these substitute data would be based largely on maximum potential flow rates. The heat input rate data reported for the period would be computed from this maximum potential flow rate data and would not reflect the unit's very limited operations over this period.

In the January 24, 2018 petition, as an alternative to using the missing data substitution procedures applicable to units with CEMS, Greenidge proposes to use the monitoring procedures under appendix D to part 75 to determine and report the unit's heat input rate and SO_2 mass emissions and to use the procedures under appendix G to part 75 to determine and report CO_2 mass emissions for the period from February 21, 2017 through May 7, 2017, the date of the successful probationary calibration error test for the replacement stack flow monitor. Because the methodologies set forth in appendices D and G rely on measurements of the quantity and quality of fuel combusted as an alternative to using SO_2, CO_2, and stack gas flow rate CEMS, there would be no need for substitute stack flow rate data during this period. Greenidge also describes in the petition how it would use the heat input rate data determined using the appendix D methodology to calculate NO_X mass emissions during this period. In support of its proposal, Greenidge explains that during this period, the unit burned only natural gas and the fuel flow measurements required by the methodologies under appendices D and G would be provided by a gas flow meter that meets the requirements for commercial billing meters as described in section 2.1.4.2 of appendix D.[4]

In addition, for purposes of reporting substitute hourly NO_X emission rate data prior to the completion of recertification of the replacement NO_X monitoring system on June 29, 2017, Greenidge requests approval to use initial missing data procedures (see § 75.31) rather than standard missing data procedures (see §§ 75.33 through 75.37). Under § 75.20(b)(3)(i), in a case where a replacement, modification, or change requiring recertification of a CEMS is such that the historical data stream is no longer representative and the change results in significantly lower concentration or flow rate, the owner or operator may follow standard missing data procedures until the first hour of quality-assured data is obtained (which may be the date of the successful probationary calibration error test of the replacement CEMS if subsequent required tests are successfully completed within the required time periods in accordance with § 75.20(b)(3)(ii) through (viii)), and thereafter apply the initial missing data procedures in § 75.31. Greenidge asserts that the modification of Unit 6 to burn primarily natural gas results in significantly lower NO_X concentrations when compared to the unit's historical NO_X concentrations while burning coal and, therefore, Greenidge proposes to report initial missing data for NO_X concentrations, when necessary, following the successful probationary calibration error test of the replacement NO_X monitoring system on February 21, 2017.

EPA's Determination

EPA has reviewed the January 24, 2018 petition and the 2017 first and second quarter electronic data records (EDR) submitted by Greenidge for Unit 6 which include data reported during the entire recertification test period through completion of RATAs for the replacement gas and stack flow CEMS following the conversion of Unit 6 from a coal-fired boiler to a primarily gas-fired boiler. According to

[4] Confirmed via email response dated February 1, 2018, from Mr. Dale Irwin to Ms. Jenny Jachim.

the information provided by Greenidge, during the recertification test period, Unit 6 combusted only natural gas, only operated in about 30% of the possible operating hours, and for many of those operating hours only operated for a fraction of the hour. In addition, more than 90 percent of the operation during this period was at very low loads (less than 2 MW), well below the unit's normal minimum levels of operation.[5] Considering the limited operation and the very low operating levels during the recertification test period, EPA concludes that use of standard missing data substitution procedures for missing quality-assured stack flow data during the period prior to the successful probationary calibration error test of the replacement stack flow monitoring system would grossly overstate the unit's reported heat input data. Accordingly, EPA approves Greenidge's request to apply the monitoring methodologies under appendices D and G to part 75 to determine heat input rate, SO_2 mass emissions, and CO_2 mass emissions for the period from February 21, 2017 through the successful probationary calibration error test of the replacement stack flow monitor on May 7, 2017 instead of following standard missing data substitution procedures applicable to CEMS, subject to the conditions set forth below.

EPA also agrees that the conversion of Unit 6 from burning coal to burning primarily natural gas qualifies as a change that would render the historical stream of NO_X concentration data unrepresentative for purposes of determining substitute data for missing quality-assured NO_X concentration data in the context of a monitor recertification. Under the existing regulations at § 75.20(b)(3)(i), without the need for EPA approval of a petition under § 75.66, Greenidge may therefore determine substitute data for missing quality-assured NO_X concentration data using the initial missing data procedures in § 75.31 instead of the standard missing data procedures in §§ 75.33 through 75.37 beginning with the first hour of quality-assured data obtained with the recertified NO_X monitoring system and ending as provided in § 75.31. In the case of Unit 6, this means that Greenidge may use, as needed, the initial missing data procedures to determine substitute NO_X concentration data starting with the hour of the successful probationary calibration error test of the replacement NO_X monitoring system on February 21, 2017, provided that subsequent required tests were successfully completed within the required time periods in accordance with § 75.20(b)(3)(ii) through (viii).

Conditions of Approval

As conditions of this approval of Greenidge's request to use the monitoring procedures under appendices D and G to 40 CFR part 75 to determine Unit 6's heat input rate data and SO_2 and CO_2 mass emission rate data from February 21, 2017 through May 7, 2017, Greenidge shall:

1. Make all necessary revisions to the electronic monitoring plan for Greenidge Unit 6 to represent the change from coal combustion to natural gas combustion and any changes in monitoring methodology;

2. Ensure that the natural gas flowmeters either are commercial billing meters as described in 40 CFR part 75, appendix D, section 2.1.4.2 or are certified according to section 2.1.5;

3. Ensure that the data acquisition and handling system is properly programmed to use the 40 CFR part 75, appendix D methodology for calculating hourly heat input rate (mmBtu/hr) and hourly SO_2 mass emission rate (lb/hr) and to use equation G-4 in 40 CFR part 75, appendix G for calculating hourly CO_2 mass emission rate (tons/hr) until the hour before the successful probationary calibration error test of the stack flow monitoring system on May 7, 2017, and is

[5] In the monitoring plan submitted by Greenidge for Unit 6, the reported lower and upper range of operation for Unit 6 is a low of 37 MW and a high of 113 MW. The higher operating range is designated as the normal range of operation.

also properly programmed to use the appropriate CEMS methodology and associated equations for calculating these data starting with the next hour;

4. Use the hourly heat input rate (mmBtu/hr) computed under the appendix D methodology in conjunction with reported hourly NO_X emission rate (lb/mmBtu) to determine reported hourly NO_X mass emission rate (tons/hr) during the period while the appendix D methodology is being used to determine the reported hourly heat input rate data;

5. Resubmit the quarterly EDRs for Greenidge Unit 6 for all quarters of 2017. Coordinate the resubmission of the data with Craig Hillock, who may be reached at (202) 343-9164 or by email at hillock.craig@epa.gov;

6. Resolve any Acid Rain Program allowance or CSAPR allowance accounting issues by contacting Mr. Kenon Smith, who may be reached at (202) 343-9164 or by e-mail at smith.kenon@epa.gov.

EPA's determination relies on the accuracy and completeness of Greenidge's January 24, 2018 petition and subsequent email communications and is appealable under 40 CFR part 78. If you have any questions regarding this determination, please contact Jenny Jachim at [redacted]. Thank you for your continued cooperation.

Sincerely,

/s/
Reid P. Harvey, Director
Clean Air Markets Division

cc: Esther Nelson, USEPA Region 2
Randy Orr, New York State Department
of Environmental Conservation
Steven Flint, NYSDEC DAR Central Office
Thomas Marriott, NYSDEC DAR RAPCE Region 9
Daniel Walsh, NYSDEC DAR Region 8
John Downs, B&W
Robert Fraser, QEP – ERM
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Kenon Smith, CAMD