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N6626



A CMS Energy Company

Jackson Generating Station

March 18, 2022

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MAR 23 2022
AIR QUALITY DIVISION

Subject: Response to the Violation Notice Dated March 2, 2022

Jackson Generating Station (JGS) received a Violation Notice (VN) dated March 2, 2022 with respect to an extended period of gaseous Continuous Emissions Monitoring System (CEMS) downtime for the combined-cycle unit identified as EULMDB3 in Renewable Operating Permit No. MI-ROP-N6626-2019a.

The VN identifies the following violations on a pollutant specific basis: for NO_x, FGLMDB1-6, Special Conditions (SCs) VI.2, VI.3 and VI.13; for CO, FGLMDB1-6, SCs VI.4, VI.5 and VI.13. SCs 2/4 and 3/5 are similar and simply pertain to NO_x and CO separately, with SCs 2/4 requiring that NO_x-diluent and CO CEMS be used to continuously monitor and record emissions consistent with ROP Appendix 3-A, and SCs 3/5 requiring that records of NO_x and CO be maintained for all applicable averaging periods. SC 13 is a generic condition requiring maintenance of records needed to demonstrate compliance with the ROP emission limits.

With respect to the underlying applicable requirements for the preceding conditions, it is noted that 40 CFR Part 75 is listed for both SCs VI.2 and VI.3. While JGS does not dispute that the loss of CEMS data is potentially a deviation with respect to many of the UARs for these two special conditions, the same is not true with respect to 40 CFR Part 75. Specifically, 40 CFR Part 75 does not require any type of minimum CEMS availability and contains specific procedures in Subpart D to ensure that proper substitute data is reported for any operating hour in which quality assured data is not available. JGS has fully complied with the 40 CFR Part 75 monitoring, recordkeeping and reporting provisions for the time period in question.

The VN requested that necessary actions be initiated to correct the cited violations and that a written response be provided by no later than March 23, 2022. The VN further states that the written response should include " ... the dates the violations occurred; an explanation of the causes and duration of the violations; whether the violations are

ongoing; a summary of the actions that have been taken and are proposed to be taken to correct the violations and the dates by which these actions will take place; and what steps are being taken to prevent a reoccurrence. ...”

With respect to the EULMDB3 downtime cited in this VN, JGS had already provided nearly all of the information requested above via a phone call with Mr. Brian Carley and Ms. Karen Kajiya-Mills of EGLE on January 27, 2022 and the July 2021 through December 2021 Semi-annual Continuous Emission Monitoring (CEMS) Downtime and Excess Emission Report (EER) submitted on that same date. Per a March 7, 2022 discussion with yourself and Mr. Brian Carley, EGLE clarified the agency was not seeking regurgitation of the information that had already been provided and that JGS could simply provide any relevant updates in this VN response. JGS reaffirms the information that was previously provided regarding this matter and offers the following crosswalk for where to find the desired information in the historic EER. Note that page number references refer to pages within the overall electronic PDF version of the EER as previously provided to EGLE on January 27, 2022.

- The dates the violations occurred: See EER Cover Letter, Pg 1 and U3 CO Downtime Report (Pgs 37-39) and NO_x lb/mmBtu Downtime Report (Pgs 41-43); on the latter reports, see the entries Reason Code = “1 - Monitor equipment malfunctions” and Action Code = “45 – Stack switching motor failure – replaced motor”.
- An explanation of the causes and duration of the violations: See EER Cover Letter, Pg 2 and U3 CO Downtime Report (Pgs 37-39) and NO_x lb/mmBtu Downtime Report (Pgs 41-43); on the latter reports, see the entries Reason Code = “1 - Monitor equipment malfunctions” and Action Code = “45 – Stack switching motor failure – replaced motor”. Per the downtime summaries on Pgs 39 and 43 of the PDF version of the EER, the total duration attributable to failure of the stack valve switching motor was 519 hours, or 16.3% of the operating hours in the 2nd semi-annual period.
- Whether the violations are ongoing: See EER Cover Letter, Pg 2; the violation ended upon replacement of the failed stack valve switching motor on 11/21/21 and subsequent calibrations on 11/22/21.
- A summary of the actions that have been taken and are proposed to be taken to correct the violations and the dates by which these actions will take place: See EER Cover Letter, Pgs 2-3 and U3 CO Downtime Report (Pgs 37-39) and NO_x lb/mmBtu Downtime Report (Pgs 41-43). Interim corrective actions include manual verification of proper stack valve position on the beginning day of each day-shift rotation. Long term correction actions are to be completed during the pending outage and will include real-time electronic feedback of the actual stack switching valve position, visible to the operators and within the local CEMS shelters on the Human Machine Interface (HMI). The Data Acquisition and Handling System (DAHS) will also be programmed to generate alarms any time there is a mismatch between the expected and actual stack switching valve position.

- What steps are being taken to prevent a recurrence: As described in the EER cover letter, JGS reacted quickly once the failure of the stack switching valve motor was detected by replacing the failed motor. JGS then enacted short term corrective actions via routine manual rounds to verify proper operation of the stack switching valves until the ultimate resolution regarding real-time feedback of the stack switching valve position can be programmed into the CEMS shelter HMI panels and DAHS, including appropriate alarming.

As requested, additional updates are provided below.

The EER cover letter noted multiple long term corrective actions were scheduled to occur during a Spring 2022 outage. As of today, the specific dates for the planned outage are April 16, 2022 through May 1, 2022. Note that while the facility should be available for dispatch upon outage completion, we are uncertain of when the various units will actually be dispatched following completion of the outage. However, JGS should be able to gauge the efficacy for the majority of the outage related work to capture real-time stack switching valve position without the units in service.

The plant also verbally discussed a plan to replace the valve switching motor on the other FGLMDB1-6 time-shared sampling systems (i.e., EULMDB1/EULMDB2 and EULMDB5/EULMDB6); this work will occur during the outage described above. The stack switching valve motor vendor does not really provide any guidance with respect to the expected equipment lifespan, and historic maintenance records do not clearly indicate when, if ever, these other stack switching valve motors were previously replaced (note that with the Consumers Energy purchase of JGS at the end of 2015, our ability to access historic maintenance records is limited). We believe this is a prudent course of action should the EULMDB3/EULMDB4 stack switching valve motor failure be indicative of the end of equipment life rather than a random failure, and the plant will now have a definitive date upon which the stack switching valve motors were all last replaced.

Lastly, as described in the EER cover letter, JGS has attempted to ensure that the EULMDB3 NO_x and CO data loss does not compromise our ability to ensure we remain compliant with the unit specific NO_x emission limit of 95.0 tons per 12-month rolling time period and the FGLMDB1-6 CO emission limit of 360.0 tons per 12-month rolling time period. More detail is provided below.

On the NO_x side, the DAHS automatically applies the Part 75 missing data substitution (MDS) procedures, and those procedures are designed to yield representative to conservatively high values depending upon the length of the missing data period and percent monitor availability. As of the end of October 2021, the 12-month rolling NO_x emissions for EULMDB3 were 81.8 tons, and the maximum 12-month emission rate through present has been 88.4 tons attained at the end of February of 2022 (including the automatically calculated NO_x missing data).

The DAHS does not automatically calculate substitute data for CO, which is monitored in accordance with 40 CFR Part 60. However, JGS has manually employed the load-based 40 CFR Part 75, Subpart D, MDS procedures in order to estimate CO mass emissions during the extended period of missing data between October 27 and November 22, 2021.

The resulting estimated CO mass emissions is slightly below 5 tons, and JGS has implemented an interim reduction in the CO mass emission limit for FGLMDB1-6 to 355.0 tons relative to the CO mass emissions reflected in the DAHS. To be clear, JGS will operate to ensure that the FLMDB1-6 total CO emissions as reflected in the DAHS don't exceed the threshold of 355.0 tons on a 12-month rolling basis through November of 2022, when the period of extended data loss falls out of the 12-month rolling calculations. At the end of October 2021, the DAHS calculated 12-month rolling CO mass emissions for FGLMDB1-6 was 340.2 tons, and subsequent 12-month rolling emission rates have been even lower, with the 2nd highest value being 329.5 tons as of the end of February 2022. While the preceding 12-month rolling emission rates do not account for the CO emissions during the period of data loss, the sizable gap between the DAHS calculated values and the emission limit, coupled with the approximate 5 tons CO estimate for the period of data loss, allow a high degree of confidence that the facility has been and remains in compliance with the 360.0 tons CO per 12-month rolling emission limit.

JGS regrets the loss of CEMS data for EULMDB3 and is fully committed to strengthening our surveillance procedures to quickly detect any future failures of the stack switching valve motor.

For any questions, please contact Doug Mallory of my staff via phone at (517) 841-5723 or via e-mail at doug.mallory@cmsenergy.com or Jason Prentice of the Consumers Energy Environmental Services Department at (517) 788-1467 or jason.prentice@cmsenergy.com.

Sincerely,



Janna Spitz
Plant Business Manager
Consumers Energy Company - Jackson Generating Station

cc: Mr. Scott Miller, EGLE-AQD Jackson District Office
Mr. Brian Carley, EGLE-AQD Jackson District Office