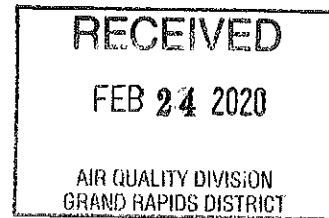




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February 21, 2020



Mr. Chris Robinson
Michigan Department of Environmental Quality
Grand Rapids District
350 Ottawa Avenue NW Unit 10
Grand Rapids, MI 49503

RE: Violation Notice Regarding ANR Pipeline Company – Woolfolk Compressor Station
SRN: B7220
ROP: MI-ROP-B7220-2017a

Dear Mr. Robinson,

A Violation Notice was received by ANR Pipeline Company (ANR) regarding the Woolfolk Compressor Station on February 6, 2020. The Violation Notice describes the violation as a failure to conduct the required NOx performance testing under Rule 818(4)(ii)(A) for Engine No. 1 (Unit 2001). Rule 818(4)(ii)(A) requires units affected by Rule 818 to be tested annually during the Ozone Control Period to ensure NOx emission limits are not exceeded. ANR does not dispute that the 2019 NOx performance test was not completed for Unit 2001.

ANR strives to meet all permitting and compliance requirements. The NOx performance tests for all units at Woolfolk affected by Rule 818 was scheduled and completed before the end of the Ozone Control Period. The reason that the emission test was not performed is because Unit 2001 suffered a mechanical failure approximately two months prior to the scheduled emission test.

The mechanical failure that prevented Unit 2001 from completing the NOx performance test was a fractured ring gear (flywheel). This part failed during a unit startup. Non-wear parts availability for KVG-103 engines is poor. There are currently no vendors who manufacture ring gears for these engines. An exhaustive search for a used ring gear was unsuccessful. Ultimately, the decision was made to hire a machining service to create a new ring gear from the original blueprints for the engine. The new ring gear was installed on the unit in late January 2020 and the unit was restarted on February 6, 2020.

ANR disagrees with the issuance of the Violation Notice for several reasons and wishes to open a dialogue with Michigan EGLE regarding this issue. Mitigating factors for not completing the required NOx performance test are described in detail below:

1. The NOx performance test was scheduled to be completed:

The NOx performance test protocol and notification for Units 2001-2009 were submitted to Michigan EGLE on May 28, 2019 to test the units during the week of July 22, 2019. The ring gear failure on Unit 2001 occurred early in the day on July 23, 2019. The emission tests were postponed due to the ring gear failure on Unit 2001, as well as several other units which were down for repair at the time of the test. Ozone Control Period emission testing was completed prior to the September 30 deadline for the remaining eight units. Unit 2001 was not tested only because the ring gear failed and replacement parts were unavailable.

2. Monitoring data indicates that the catalyst was working properly:

Rule 818 allows two options for demonstrating compliance with the NOx emission limit for Units 2001-2009. The two options are:

- a. Complete annual NOx performance testing
- b. Operate the units in accordance with an approved Parametric Monitoring Program

ANR has chosen to use the annual NOx performance testing option to demonstrate compliance with Rule 818.

Units 2001-2009 are also required to comply with the RICE MACT formaldehyde emission limit. The RICE MACT requires a 76% reduction in formaldehyde across the catalyst for these engines. The compliance demonstration for the RICE MACT is to conduct emission testing whenever a catalyst is changed out. Assuming the formaldehyde reduction demonstrates compliance with the RICE MACT, a baseline for differential pressure is established. This baseline is used to monitor catalyst performance during normal unit operation. Additionally, RICE MACT requires catalyst temperature to be monitored continuously as a second means of monitoring catalyst performance.

The requirements for monitoring catalyst temperature are very similar to what is required to demonstrate compliance with a Parametric Monitoring Plan. The catalyst functions to control both formaldehyde and NOx, so it is not unreasonable to assume that a catalyst functioning within the parameters established for RICE MACT formaldehyde control would also control NOx sufficiently to demonstrate compliance with the Rule 818 NOx emission limit. Although there is not a Parametric Monitoring Plan in place for Units 2001-2009, the data collected for demonstrating compliance with RICE MACT does show that the catalysts were functioning properly during the Ozone Control Period in 2019. The RICE MACT requires catalyst temperatures to be maintained between 750 and 1250 degrees F and to maintain catalyst differential pressure within +/- 2" W.C. from the differential pressure measured during the last emission test.

Appendix A contains catalyst differential pressure data collected during 2019. Appendix B contains catalyst temperature data for Unit 2001 collected during the 2019 Ozone Control Period. Please note that Appendix B also contains catalyst temperature data for Unit 2001 following the unit startup on February 6 and 7, 2020. The differential pressure measured for February 2020 was 6.08 inches W.C., which is within the specification. As can be seen in both appendices, the catalyst on Unit 2001 is performing within specifications.

Unit 2001 was returned to service on February 6, 2020 following the installation of the new ring gear. The unit has been operating within the required catalyst temperature and differential pressure ranges. An emission test will be scheduled early in the Ozone Control Period in 2020. No make-up tests will be performed, as the current winter conditions are not conducive to determination of NOx emission rates that would be seen in warmer weather.

To limit the risk of missing another Ozone Control Period NOx performance test, ANR will schedule performance tests closer to the beginning of the Ozone Control Period, taking into account unit outages and scheduled maintenance.

If you have any questions regarding this submittal or require any additional information, please feel free to contact Chris Waltman at (715) 758-3341 or at chris_waltman@transcanada.com

Sincerely,



W. Craig Rundle

Director – Great Lakes Region

Cc: Houston Air Files

Michigan Department of Environment, Great Lakes and Energy
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