April 17, 2017

Ms. Gloria Torello
Michigan Department of Environmental Quality
Air Quality Division
2100 M-32 West
Gaylord, MI 49735

SUBJECT: Response to Violation Notice, Dated: March 10, 2017
Core Energy, LLC, Chester 10 CO2 Injection Facility (SRN: N5798)
Otsego County, Michigan

Dear Ms. Torello:

In response to the Violation Notice issued on March 10, 2017, Core Energy and Gosling Czubak Engineering Sciences, Inc, have discussed the issues with the DEQ-AQD. It was suggested that a stack test take place to address the three violations that occurred with EUENGINE1 and EUENGINE2. Core Energy agrees that the stack test provides the best option to avoid a violation. Also noted in the Violation Notice was a failure to obtain a PTI for the generator set being stored on location. This generator set has not been electrically connected and was therefore unable to produce power and did not require a PTI. As an additional measure, Core has caused the fuel gas line to be physically disconnected from the generator set.

Core Energy proposes to conduct a stack test on EUENGINE1 and EUENGINE2 to determine actual emission factors, during the same mobilization of the required initiall NSPS Subpart JJJJ stack test for EUENGINE3. A description of the tests proposed are included for you review below.

Proposed Test Methods

- United States Environmental Protection Agency (USEPA) Methods 1 and 2 will be used to measure the exhaust gas temperature, velocity and flow rate of the gases exhausted from EUENGINE1, EUENGINE2 and EUENGINE3.

- USEPA Method 3A, *Gas Analysis for the Determination of Molecular Weight*, will be used to measure the oxygen (O_2) and carbon dioxide (CO_2) contents of the gases exhausted from EUENGINE1, EUENGINE2 and EUENGINE3.

- USEPA Method 4, *Determination of Moisture Content in Stack Gases*, will be used to measure the moisture content of the gases exhausted from EUENGINE, EUENGINE2 and EUENGINE3.

- USEPA Method 7E, *Determination of Nitrogen Oxide Emissions from Stationary Sources (Instrumental Analyzer Procedure)*, will be used to measure the NO_X content of the gases exhausted from EUENGINE1, EUENGINE2 and EUENGINE3.

- USEPA Method 10, *Determination of Carbon Monoxide Emissions from Stationary Sources,* will be used to measure the CO content of the gases exhausted from EUENGINE1, EUENGINE2 and EUENGINE3.

- USEPA Alternate Test Method ALT-096 will be used to measure the total VOC content of the gases that are exhausted from EUENGINE1, EUENGINE2 and EUENGINE3. USEPA Method ALT 096

approves the use of a Flame Ionization Analyzer (FIA) with an internal gas chromatography methane separation column for the direct measurement of total VOC (as non-methane organic compound concentration) for Subpart JJJJ IC engine emission performance demonstrations.

- USEPA Method 320, *Vapor Phase Organic & Inorganic Emissions by Extractive Fourier Transform Infrared (FTIR) Spectroscopy* will be used to measure the formaldehyde contents of the gases exhausted from EUENGINE1 and EUENGINE2.

Test Durations

The NO_X, CO, VOC and formaldehyde emissions measurements will consist of three (3), one-hour integrated tests while each IC engine is operating under maximum routine conditions.

Conclusion

EUENGINE3 is subject to NSPS Subpart JJJJ annual stack test. An EUENGINE1, EUENGINE2 and EUENGINE3 air pollutant emissions compliance /performance Test Plan will be prepared for submittal to the MDEQ-AQD at least 60 days prior to the scheduled field measurement dates. This document will provide information required by the regulatory agency to approve the specified emission measurement procedures.

The EUENGINE1, EUENGINE2 and EUENGINE3 air pollutant emissions test results will be presented in a comprehensive report that contains process descriptions, sampling methods used, measured NO_X, CO, VOC and formaldehyde emission concentrations and mass emission rate calculations. Measured NO_X, CO, VOC and formaldehyde emissions will be reported in grams per brake horsepower – hour (g/hp-hr) and pounds per hour (pph) as required by the issued air permit. Exhaust flow rates will be reported in actual cubic feet per minute (acfm) and dry standard cubic feet per minute (dscfm).

Once the new emission factors are determined, actual emissions of NOx and CO will be calculated using fuel throughput in hopes of showing that emissions did not exceed the permit limits. If a violation is determined to have occurred, a new PTI application will be submitted to address any required changes to the permit.

If you agree to the above stack test methodology please respond via letter or email. We will schedule the stack tests upon your approval. Please note 60 days will usually be required from time of Subpart JJJJ workplan submittal and MDEQ-AQD approvals with additional time required to schedule and perform the tests. A realistic time frame for the test to be performed is most likely 3-5 months from workplan submittal to the DEQ-AQD for approval (July - September 2017).

Respectfully Submitted,

Robert Tipsword
Core Energy, LLC

CC:
Mr. Shane Nixon, MDEQ-AQD
Mr. Frank Murray, Core Energy
Mr. Jeff Simsa, GCES
Mr. Eric Vincke, GCES