**VIA CERTIFIED MAIL**

August 10, 2018

Todd Zynda, Environmental Engineer
Michigan Department of Environmental Quality
Air Quality Division
3058 W. Grand Boulevard, Suite 2-300
Detroit, MI 48202-6058

**RE: M4148 Detroit Renewable Power – Response to Violation Notice dated July 20, 2018**

Dear Mr. Zynda:

This correspondence is Detroit Renewable Power's (DRP) response to the Violation Notice (VN) dated July 20, 2018 for alleged violations based upon Michigan Department of Environmental Quality, Air Quality Division (AQD) review of the First Quarter 2018 Continuous Emissions Monitoring Systems (CEMS) Reports and additional information provided to the AQD.

The following table summarizes the alleged violations along with DRP's response to each event. Explanation of the causes and duration of any reported excess emissions, as well as a summary of corrective actions implemented, is provided after the table.

| Process Description | Rule/Permit Condition | Summary of AQD Comments | DRP Response |
|---|---|---|---|
| Boilers 12 and 13 - First Quarter 2018 | ROP No. MI-ROP-M4148- 2011a, FGBOILERS011-013 SC 1.9.a<br><br>40 CFR Part 60, Subpart Cb, §60.33b(b )(3)(i)<br><br>40 CFR Part 62, Subpart FFF, §62.14103(b)(1) ACO AQD No. 6-2017, Paragraph 13 | Boiler 12 SO2 emissions based on a 24-hour daily geometric mean exceeded 29 parts per million by volume (ppmv) on 1/8/18 (33 ppmv), 1/15/18 (38 ppmv), and 1/23/18 (30 ppmv)*<br><br>Boiler 13 SO2 emissions exceeded the geometric mean limit on 1/23/18 (33 ppmv) | Except for Boiler 12 on January 23, 2018, on each of these dates, the Boiler in question was down for a period of time, creating a Partial Block Period. As provided in the ROP, "[e]mission standards or limitations applicable to block periods are not applicable to partial block periods." |

| Process Description | Rule/Permit Condition | Summary of AQD Comments | DRP Response |
|---|---|---|---|
| Boilers 12 and 13 - First Quarter 2018 | ROP No. MI-ROP-M4148- 2011a, FGBOILERS011-013 SC 1.11.a<br><br>40 CFR Part 60, Subpart Cb, §60.34b(a)<br><br>ACO AQD No. 6-2017, Paragraph 13 | Boiler 12 CO emissions based on a 24-hour block average exceeded 200 ppmv on 1/30/18 (283 ppmv).<br><br>Boiler 13 CO emissions exceeded the 24-hour limit on 3/8/18 (265 ppm). | On each of these dates, the Boiler in question was down for a period of time, creating a Partial Block Period. As provided in the ROP, "[e]mission standards or limitations applicable to block periods are not applicable to partial block periods." |
| Boiler 13 | ROP No. MI-ROP-M4148- 2011a, FGBOILERS011-013 SC 1.11.a | CO emissions based on a 1-hour block average exceeded 267 ppmv for two consecutive hours on 1/18/18 (11:00 to 13:00-473 ppmv and 821 ppmv). | Startup - RDF began feed at 10:15 resulting with the unit in startup until 13:15. Both hours are not considered excess emissions during startup. See attached CEMS minute data showing the startup of RDF at 10:15. |
| Boilers 11, 12, 13 | ROP No. MI-ROP-M4148- 2011a, FGBOILERS011-013 SC IV.1<br>R 336.1910 | Failure to operate spray dryer absorber (SDA) properly during operation of Boiler 11 on 12/31/2017, Boiler 12 on 1/15/18, and Boiler 13 on 1/5/18. | Except for the period on 12/31/2017, a review of the DCS shows that the slurry was feeding during these periods. However, the DAHS (Data Acquisition Handling System for the CEMS) did not record the slurry feed rate. On 12/31/17 the DCS did not show slurry feed. |
| Boilers 11, 12, 13 | ROP No. MI-ROP-M4148- 2011a, FGBOILERS011-013 SC IX.8<br><br>ACO AQD No. 6-2017, Paragraph 13 | Failure to maintain SDA Preventative Maintenance Weekly, Monthly, and Semi-Annual Checks as defined in ACO AQD No. 6-2017, Exhibit A | The forms to complete weekly and monthly SDA preventative maintenance were divided for completion by two separate departments. While a different form than portrayed in the ACO, the checklists are comprehensive to those portrayed in the ACO. |

| Process Description | Rule/Permit Condition | Summary of AQD Comments | DRP Response |
|---|---|---|---|
| Boilers 11, 12, 13 | ROP No. MI-ROP-M4148- 2011a, FGBOILERS011-013 SC VII.5<br><br>40 CFR Part 60, 60.7(c)<br><br>R 336.2170(1)(a)(ii) | Failure to report all excess emissions for 1Q2018 | All excess emission were reported in the 1Q2018 excess emission report. Explanation of each of the events listed in the VN is addressed in the document attached to this letter. |
| Boilers 11, 12, 13 | ROP No. MI-ROP-M4148- 2011a, FGBOILERS011-013, SC 111.3 | The facility reports the flue gas oxygen content less than 4% on various dates in the First Quarter 2018. | The underlying applicable requirement for this condition is 40 CFR 52.21(j), to establish an emission limit. During each event when the oxygen content was less than 4%, the units were demonstrating compliance with the CO, NOx, and furnace temperature limits, as presented in the attached table. |
| Boilers 11, 12 | ROP No. MI-ROP-M4148- 2011a, FGBOILERS011-013, SC 111.2 | The facility reports that the combustion zone was less than 1800°F while firing refuse derived fuel (RDF) at Boiler 11 on 1/11/18 (9:00 to 10:00- 1795 °F) and Boiler 12 on 3/8/18 (8:00 to 9:00 - 1785 °F) | Startup - Unit 11 (1.11.2018) was in startup with RDF feed beginning at 9:51.<br><br>Shutdown - Unit 12 (3.8.2018) RDF stopped feed at 8:47. |

*The violation notice lists 1/24/18 as the date of the alleged event which exceeds the emissions limit; however, the date should read 1/23/18.

The following summarizes the response of each of the items listed in the above table. The supporting data for each of the events listed below is included as attachments to this letter.

**Boiler 12 and 13 SO2 Emissions Based on a 24-Hour Daily Geometric Mean**
The ROP defines "Partial Block Period (for block periods greater than one-hour)" as follows:

> A block period that does not have MSW continuously burning due to startup or shutdown or the unit being off line, or which has an exemption of data use due to startup, shutdown or malfunction exclusion provisions under the Emission Guidelines. The exemption of data use under the Emission Guidelines may create a partial block

> period. **Emission standards or limitations applicable to block periods are not applicable to partial block periods.** (Emphasis added.)

Except for Boiler 12 on January 23, 2018, on each of these dates, the Boiler in question was down for a period of time, creating a Partial Block Period, as defined above. As the definition of Partial Block Period clearly states, emission standards or limitations applicable to block periods are not applicable to partial block periods. Therefore, there was no emission exceedance on January 8 and 15, 2018 for Unit 12 or January 23, 2018 for Unit 13.

Our research indicates that similar provisions for Partial Block Periods can be found in the ROP for the Kent County Waste-to-Energy Facility (MI-ROP-N1604-2018) and in permits issued by the New York State Department of Environmental Conservation (Covanta Hempstead Company, No. 1-2820-01727/00028 and Islip Resource Recovery Agency, No. 1-4728-00185/00012). See also Indiana Department of Environmental Management Part 70 Operating Permit 097-35573-00123 (Covanta Indianapolis, Inc.).

**Boiler 12 and 13 CO Emissions Based on a 24-Hour Block Average**

As noted above, the definition of Partial Block Period in the ROP clearly states that emission standards or limitations applicable to block periods are not applicable to partial block periods. On each of these dates, the Boilers in question were down for a period of time, creating a Partial Block Period. Therefore, there was no emission exceedance on January 30 or March 8, 2018.

**January 18, 2018 11:00-13:00 – Boiler 13 CO**

Unit 13 Refuse Derived Fuel (RDF) began feed at 10:15. Therefore, this event occurred during startup and is covered under the startup and shutdown provisions as discussed with AQD during the July 26, 2018 meeting. AQD concurred that the events occurred during startup and shutdown are not considered violations. See Attachment A for the CEMS and operational minute data.

**Failure to Operate Spray Dryer Absorber Properly**

Review of the distributed control system (DCS) indicates that the spray dryer absorber (SDA) slurry was feeding during the identified periods except for December 31, 2017. However, the DAHS did not record the SDA slurry feed rate. DRP is looking into the cause of the communication between the DCS and DAHS and will correct the communication once the cause is identified. Based on records of boiler operation on December 31, 2017, DRP was unable to attribute the lack of SDA operational record to a specific cause; however, DRP is investigating this malfunction. Attachment B provides the SDA slurry feed rate from the DCS for Boiler 11 on December 31, 2017, Boiler 12 on January 15, 2018, and Boiler 13 on January 5, 2018.

**Failure to Maintain Spray Dryer Absorber Preventative Maintenance Checks**

As discussed during the meeting with AQD on July 26, 2018, the weekly and monthly SDA preventative maintenance checklists items were divided into two separate lists; one list for maintenance activities and one for operational/E&I activities. Consequently, when responding to the AQD's request for copies of the weekly and monthly SDA preventative maintenance checklists, only one portion of the checklist was provided. Attachment C includes the remaining forms, which covers all of the items in the weekly and monthly SDA checklists contained in ACO AQD No. 6-2017. Semi-

annual SDA preventative maintenance forms are also attached, which were completed in November 2017 and July, 2018.

In addition to the hand-completed forms, DRP uses a digital maintenance management system, Maximo, to schedule and track preventive maintenance work orders. Examples of these work orders are also attached for the SDA equipment.

**Failure to report all excess emissions for 1Q2018**

Subsequent to the submittal of the 2018 first quarterly report, AQD requested the hourly data for the quarter. Based on AQD's initial review of the hourly data, AQD identified additional excess emissions that they believed had not been reported in the quarterly report. However, these events were not reported in the quarterly report because either the unit was down or the CEMS data was flagged as invalid. Neither of these event statuses, (unit down or invalid data), are required to be reported as excess emissions. For events when CEMS reports the unit in operation and the data is flagged as invalid, these events were appropriately reported as CEMS downtime. As presented to AQD during the July 26, 2018 meeting, Attachment D is a summary table listing each event and the corresponding status for the unit as down or flagged as invalid data, which AQD concurred that reporting was not required based on the supporting minute data demonstrating the correctly flagged hourly data. The CEMS and process operations minute data are also provided as support documentation.

**Flue Gas Oxygen Content Less Than 4%**

The underlying applicable requirement for this condition is 40 CFR 52.21(j), which analyzes the best available control technology to establish an emission limit. An evaluation of compliance with the combustion related emission limits of CO and NOx and furnace temperature was performed. For each event when the oxygen content was less than 4%, the units were demonstrating compliance with the CO, NOx, and furnace temperature limits, as presented in Attachment E. Therefore, the basis for the parametric value of a minimum 4% $O_2$ for emission limit compliance demonstration is not effective. DRP recommends that this monitoring requirement be withdrawn from the ROP.

**Combustion Zone Temperature Less Than 1800°F**

The quarterly report listed two events that the combustion zone was less than 1800°F while firing refuse derived fuel (RDF) in Boiler 11 on 1/11/18 (9:00 to 10:00 1795 °F) and Boiler 12 on 3/8/18 (8:00 to 9:00 1785 °F). On January 11, 2018, Unit 11 was in startup with RDF feed beginning at 9:51. For the March 8, 2018 event, Unit 12 stopped RDF feed at 8:47. Therefore, both of these events occurred during startup and shutdown periods. Each of the events were reviewed with AQD during the July 26, 2018 meeting, which AQD concurred that these events occurred during startup and shutdown periods.

If you have questions concerning this response, please feel free to contact Mark Fletcher at (313) 963-3394.

Sincerely,

Detroit Renewable Power

Robert Suida, Plant Manager

CC: Mark Fletcher, EHS Manager

Attachment A: Unit 13 Jan 18, 2018 Minute Data
Attachment B: SDA Slurry Feed Rate from DCS
Attachment C: SDA Preventative Maintenance Checks
Attachment D: Response to 40 CFR 60.7 Non-reporting Item
Attachment E: Boiler Combustion Oxygen Additional Information