



RICK SNYDER  
GOVERNOR

STATE OF MICHIGAN  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
DETROIT



C. HEIDI GREETHER  
DIRECTOR

July 20, 2018

Mr. Robert Suida, Plant Manager  
Detroit Renewable Power, LLC  
5700 Russell St.  
Detroit, MI 48211-2545

SRN: M4148, Wayne County

Dear Mr. Suida:

**VIOLATION NOTICE**

On April 30, 2018, the Department of Environmental Quality (DEQ), Air Quality Division (AQD), received the First Quarter 2018 Continuous Emissions Monitoring Systems (CEMS) Report for Detroit Renewable Power (DRP) located at 5700 Russell, Detroit, Michigan. A revised First Quarter 2018 CEMS Report was received on June 15, 2018. On July 10, 2018, DRP provided additional revisions to the First Quarter 2018 CEMS Report. Additional requested information regarding the First Quarter 2018 CEMS report and Fourth Quarter 2017 CEMS Report was also received via email on July 10, 13, and 16, 2018. During review of the quarterly reports and additional information provided, the AQD evaluated compliance with the requirements of the federal Clean Air Act; Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451); the Air Pollution Control Rules; MI-ROP-M4148-2011a; and Administrative Consent Order (ACO) AQD No. 6-2017.

During the review of the First Quarter 2018 CEMS Reports and additional information provided, the following violations were identified:

Process Description	Rule/Permit Condition Violated	Comments
Boilers 12 and 13 – First Quarter 2018	ROP No. MI-ROP-M4148-2011a, FGBOILERS011-013, SC I.9.a  40 CFR Part 60, Subpart Cb, §60.33b(b)(3)(i)  40 CFR Part 62, Subpart FFF, §62.14103(b)(1)  ACO AQD No. 6-2017, Paragraph 13	Boiler 12 SO <sub>2</sub> 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 1/24/18 (30 ppmv).  Boiler 13 SO <sub>2</sub> emissions exceeded the geometric mean limit on 1/23/18 (33 ppmv).

Boilers 12 and 13 – First Quarter 2018	ROP No. MI-ROP-M4148-2011a, FGBOILERS011-013, SC I.11.a  40 CFR Part 60, Subpart Cb, §60.34b(a), Table 3  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).  Boiler 13 CO emissions exceeded the 24-hour limit on 3/8/18 (265 ppm).
Boiler 13	ROP No. MI-ROP-M4148-2011a, FGBOILERS011-013, SC I.11.b	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).
Boilers 11, 12, 13	ROP No. MI-ROP-M4148-2011a, FGBOILERS011-013, SC IV. 1  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.
Boilers 11, 12, 13	ROP No. MI-ROP-M4148-2011a, SOURCE-WIDE CONDITIONS, SC IX. 8  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
Boilers 11, 12, and 13	ROP No. MI-ROP-M4148-2011a, FGBOILERS011-013, SC VII.5  40 CFR Part 60, Subpart A, §60.7(c)  R336.2170(1)(a)(ii)	Failure to report all excess emissions for First Quarter 2018.
Boilers 11, 12, and 13	ROP No. MI-ROP-M4148-2011a, FGBOILERS011-013, SC III.3	The facility reports the flue gas oxygen content less than 4% on various dates in the First Quarter 2018.
Boilers 11 and 12	ROP No. MI-ROP-M4148-2011a, FGBOILERS011-013, SC III.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)

Sulfur Dioxide 24-hour Daily Geometric Mean - FGBOILERS011-013, SC I.9.a

Boiler 12 SO<sub>2</sub> emissions based on a 24-hour daily geometric mean exceeded 29 ppmv on January 8, 2018 (33 ppmv), January 15, 2018 (38 ppmv), and January 24, 2018 (30 ppmv). Boiler 13 SO<sub>2</sub> emissions based on a 24-hour daily geometric mean exceeded 29 ppmv on January 23, 2018 (33 ppmv). These exceedances are a violation of ROP No. MI-ROP-M4148-2011a, FGBOILERS011-013, SC I.9.a and 40 CFR Part 60, Subpart Cb, §60.33b(b)(3)(i), and 40 CFR Part 62, Subpart FFF, §62.14103(b)(1). Per ACO AQD No. 6-2017, Paragraph 13, this violation is also subject to stipulated fines.

It should be noted that per 40 CFR §60.51b, the twenty-four hour daily average is defined as follows.

*Twenty-four hour daily average or 24 hour daily average* means either the arithmetic mean or geometric mean (as specified) of all hourly emission concentrations when the affected facility is operating and combusting municipal solid waste measured over a 24-hour period between 12:00 midnight and the following midnight.

It should be also noted that 40 CFR Part 60, Appendix A-7, 12.4.3, Equation 19-21 defines the calculation for daily geometric average pollutant rates as follows.

$$E_{ga} = \exp \left[ \frac{1}{n_t} \sum_{j=1}^{n_t} \ln(E_{hj}) \right] \quad \text{Eq. 19-21}$$

Where:

$E_{ga}$  = Daily geometric average pollutant rate, ng/J (lbs/million Btu) or ppm corrected to 7 percent O<sub>2</sub>.

$E_{hj}$  = Hourly arithmetic average pollutant rate for hour "j," ng/J (lb/million Btu) or ppm corrected to 7 percent O<sub>2</sub>.

$n_t$  = Total number of hourly averages for which paired inlet and outlet pollutant rates are available within the 24-hr midnight to midnight daily period.

Carbon Monoxide 24-hour Block Average - FGBOILERS011-013, SC I.11.a

On January 30, 2018, Boiler 12 exceeded the 24-hour block average CO emission limit (200 ppmv) at 283 ppmv. On March 8, 2018, Boiler 13 exceeded the 24-hour block average CO emission limit at 265 ppmv. These exceedances are a violation of ROP No. MI-ROP-M4148-2011a, FGBOILERS011-013, SC I.11.a and 40 CFR Part 60, Subpart Cb, §60.34b(a), Table 3. Per ACO AQD No. 6-2017, Paragraph 13, this violation is also subject to stipulated fines.

Similar to the SO<sub>2</sub> exceedance discussion above, the CO 24-hour block average (arithmetic) should be calculated for all operating hours over a 24-hour period between 12:00 midnight and the following midnight.

Carbon Monoxide 1-hour Block Average - FGBOILERS011-013, SC I.11.b

On January 18, 2018, Boiler 13 exceeded the 1-hour block average CO emission limit (267 ppmv) for two consecutive hours (11:00 to 13:00 - 473 ppmv and 821 ppmv); indicating corrective action was not implemented in a timely manner. This incident is a violation of ROP No. MI-ROP-M4148-2011a, FGBOILERS011-013, SC I.11.b.

SDA Installed and Operating Properly - ROP No. MI-ROP-M4148-2011a, FGBOILERS011-013, SC IV. 1 and R 336.1910

On June 27, 2018, the AQD requested hourly CEMS data (including RDF fuel feed rate, fuel oil feed rate, and lime slurry flow) for identified days of SO<sub>2</sub> exceedances during the fourth quarter 2017 and first quarter 2018. Following review of the CEMS data provided on July 10, 2018, it was identified that the lime slurry flow rate for the SDA was zero or near zero during times of boiler operation. The following days were documented where the boilers were in operation firing RDF and the SDA control was not operating properly.

- Boiler 11 on December 31, 2018, firing RDF from 14:00 to 24:00, lime slurry flowrate at 0.0 gallons per minute (gpm).
- Boiler 12 on January 15, 2018, firing RDF from 17:00 to 23:00, lime slurry flow rate of 0.1 gpm
- Boiler 13 on January 5, 2018, firing RDF from 10:00 to 15:00, lime slurry flow rate of 0.0 gpm (with the exception of 13:00 at 1.5 gpm).

The above listed days are a violation of ROP No. MI-ROP-M4148-2011a, FGBOILERS011-013, SC IV.1 and R 336.1910. R336.1910 requires that "an air-cleaning device shall be installed, maintained, and operated in a satisfactory manner and in accordance with the administrative rules and existing law."

SDA Preventative Maintenance Weekly, Monthly, and Semi-Annual Checks - ROP No. MI-ROP-M4148-2011a, SOURCE-WIDE CONDITIONS, SC IX. 8 and ACO AQD No. 6-2017, Exhibit A

On June 27, 2018, the AQD requested the SDA Preventative Maintenance Weekly, Monthly, and Semi-Annual Checks required under for identified days of SO<sub>2</sub> exceedances during the fourth quarter 2017 and first quarter 2018. The SDA preventative maintenance records were provided on July 13, 2018.

During review of the SDA Preventative Maintenance Weekly Checks it was identified that the weekly checklist was modified and is missing eight checklist lines as required under Exhibit A of ACO No. AQD No. 6-2017. Additionally, the following weeks were missing records: Weeks of February 11, 2018, December 24, 2017, October 29, 2017, and October 15, 2017 are missing.

During review of the SDA Preventative Maintenance Monthly Checks it was identified that the monthly checklist was modified as is missing 15 checklist lines as required under Exhibit A of ACO No. AQD No. 6-2017.

DRP did not provide records for the SDA Preventative Maintenance Semi-Annual Checks. According to email correspondence on July 13, 2018, the Semi-Annual Checks records could not be located.

The above list items are violations of ROP No. MI-ROP-M4148-2011a, SOURCE-WIDE CONDITIONS, SC IX. 8 and ACO AQD No. 6-2017, Exhibit A. Per ACO AQD No. 6-2017, Paragraph 13, this violation is also subject to stipulated fines.

Excess Emission Reporting - ROP No. MI-ROP-M4148-2011a, FGBOILERS011-013, SC VII.5

The First Quarter 2018 CEMS report included hourly CEMS data. On July 16, 2018 DRP provided additional CEMS data, including data validation flags. Following review of the CEMS data the below excess emissions were identified as not reported. This is a violation of ROP No. MI-ROP-M4148-2011a, FGBOILERS011-013, SC VII.5; 40 CFR Part 60, Subpart A, §60.7(c); and R336.2170(1)(a)(ii).

Date	Time Start	End Time	Boiler	Pollutant	ppmv	Notes
1/11/2018	9:00	10:00	11	CO	589	Unit not down, firing RDF during hours before and after listed hour
3/21/2018	9:00	10:00	11	CO	1276	Shutdown, Unit firing RDF during last hour of 40,000 lbs/hour
1/30/2018	0:00	14:00	12	CO	283	24 CO emission limit exceedance not including 3 hours for shutdown
3/21/2018	9:00	10:00	12	CO	622	Startup, Unit firing RDF at 17,000 lbs/hour
3/25/2018	13:00	14:00	12	CO	506	Unit not down, firing RDF during hours before and after listed hour

3/8/2018	6:00	7:00	13	CO	1036	Unit not down, firing RDF during hours before and after listed hour
3/8/2018	13:00	14:00	13	CO	515	Shutdown, Unit firing RDF at 55,000 lbs/hour
3/8/2018	0:00	14:00	13	CO	265	24 CO emission limit exceedance not including 3 hours for shutdown
3/9/2018	6:00	7:00	13	CO	342	Startup, Unit firing RDF at 19,000 lbs/hour

It is noted that the above listed 1-hour CO excess emissions are flagged as either “d – source down; data is not used for compliance purposes” or “B – indicates the amount of valid polled data did not meet the required number of valid samples required for a valid average or “Bad” data from a computed Data Channel”. Following review of the CEMS data it appears the during these times, RDF was being combusted and the units were not down. Additionally, after review of the monitor downtime data provided as part of the First Quarter CEMS Report received on June 15, 2018, the facility did not report monitor downtime for the above listed instances. At this time, the AQD considers the above 1-hour CO emissions as excess emissions.

Flue Gas Oxygen Content - FGBOILERS011-013, SC III.3

During review of the First Quarter CEMS Report it was identified that on several occasions the flue gas oxygen content at Boiler 11, 12, and 13 has been less than 4 percent by volume on a 1-hour average as listed below.

- Boiler 11 – 1/12/2018 (1 hour), 1/13/18 (2 hours), 1/14/18 (1 hour), 2/11/18 (1 hour), 2/18/18 (3 hours), 2/21/18 (2 hours), 2/22/18 (9 hours), 2/23/18 (10 hours), 2/24/18 (11 hours), 2/25/18 (1 hour), 3/2/18 (2 hours), 3/21/18 (3 hours)
- Boiler 12 – 2/24/18 (5 hours), 2/28/18 (1 hour), 3/4/18 (1 hour), 3/5/18 (9 hours), 3/6/18 (16 hours), 3/7/18 (24 hours), 3/8/18 (3 hours), 3/31/18 (2 hours)
- Boiler 13 – 1/18/18 (1 hour), 1/21/18 (1 hour), 1/22/18 (3 hours), 1/23/18 (1 hour), 1/25/18 (1 hour), 1/26/18 (15 hours), 1/27/18 (2 hours), 2/4/18 (2 hours), 2/8/18 (1 hour), 2/13/18 (4 hours), 2/15/18 (13 hours), 2/26/18 (3 hours), 2/27/18 (10 hours), 2/28/18 (3 hours), 3/11/18 (1 hour), 3/12/18 (4 hours)

The above listed occurrences are a violation of ROP No. MI-ROP-M4148-2011a, FGBOILERS011-013, Special Condition (SC) III.3.

Combustion Zone Temperature - FGBOILERS011-013, SC III.2

During review of the First Quarter 2018 CEMS Report it was identified that the 1-hour average combustion zone temperature on Boiler 11 was less than both 1800°F while

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firing RDF on January 18, 2018 for 1 hour (9:00 to 10:00 – 1795 °F). Additionally, Boiler 12 did not meet the combustion zone temperature requirement for one hour while firing RDF (8:00 to 9:00 – 1785 °F) on March 13, 2018. These occurrences are a violation of ROP No. MI-ROP-M4148-2011a, FGBOILERS011-013, SC III.2.

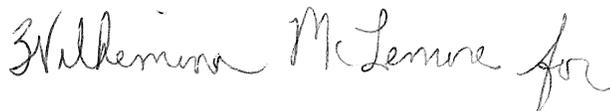
Please initiate actions necessary to correct the cited violations and submit a written response to this Violation Notice by August 10, 2018 (which coincides with 21 calendar days from the date of this letter). The written response should include: the dates the violations occurred; an explanation of the 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.

Please submit the written response to the DEQ, AQD, Detroit District, at 3058 West Grand Boulevard, Suite 2-300, Detroit, Michigan 48202 and submit a copy to Ms. Jenine Camilleri, Enforcement Unit Supervisor, at the DEQ, AQD, P.O. Box 30260, Lansing, Michigan 48909-7760.

If DRP believes the above observations or statements are inaccurate or do not constitute violations of the applicable legal requirements cited, please provide appropriate factual information to explain your position.

Thank you for your attention to resolving the violations cited above. If you have any questions regarding the violations or the actions necessary to bring this facility into compliance, please contact me at the number listed below.

Sincerely,



Todd Zynda, P.E.  
Senior Environmental Engineer  
Air Quality Division  
313-456-2761

cc: Mr. Mark Fletcher, DRP  
Mr. Paul Max, City of Detroit, BSEED  
Ms. Mary Ann Dolehanty, DEQ  
Mr. Craig Fitzner, DEQ  
Mr. Christopher Ethridge, DEQ  
Ms. Jenine Camilleri, DEQ  
Ms. Wilhemina McLemore, DEQ  
Mr. Jeff Korniski, DEQ