



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

FEB - 5 2015

REPLY TO THE ATTENTION OF:

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

David R. Gloer
POET Biorefining - Caro
1551 Empire Drive
Caro, Michigan 48723

Re: Finding of Violation
POET Biorefining - Caro
Caro, Michigan

Dear Mr. Gloer:

The U.S. Environmental Protection Agency is issuing the enclosed Finding of Violation (FOV) to POET Biorefining - Caro (POET or you) under Section 113(a)(3) of the Clean Air Act, 42 U.S.C. § 7413(a)(3). We find that you are violating your Title V Operating Permit at your Caro, Michigan, facility.

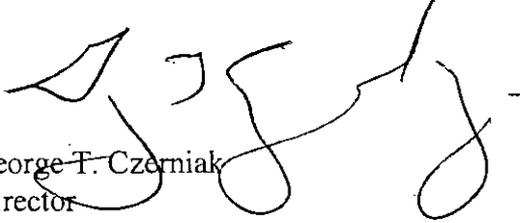
Section 113 of the Clean Air Act gives us several enforcement options. These options include issuing an administrative compliance order, issuing an administrative penalty order and bringing a judicial civil or criminal action.

We are offering you an opportunity to confer with us about the violations alleged in the FOV. The conference will give you an opportunity to present information on the specific findings of violation, any efforts you have taken to comply and the steps you will take to prevent future violations. In addition, in order to make the conference more productive, we encourage you to submit to us information responsive to the FOV prior to the conference date.

Please plan for your facility's technical and management personnel to attend the conference to discuss compliance measures and commitments. You may have an attorney represent you at this conference.

The EPA contact in this matter is Eleanor Kane. You may call her at (312) 353-4840 or email her at kane.eleanor@epa.gov to request a conference. You should make the request within 10 calendar days following receipt of this letter. We should hold any conference within 30 calendar days following receipt of this letter.

Sincerely,


George T. Czerniak
Director
Air and Radiation Division

Enclosure

cc: Chris Hare
Michigan Department of Environmental Quality

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5**

IN THE MATTER OF:

POET Biorefining – Caro
Caro, Michigan

Proceedings Pursuant to
Section 113(a)(3)
of the Clean Air Act
42 U.S.C. § 7413(a)(3)

)
)
) **FINDING OF VIOLATION**

)
) **EPA-5-15-MI-01**

FINDING OF VIOLATION

The U.S. Environmental Protection Agency is issuing this Finding of Violation (FOV) to POET Biorefining - Caro (POET or you) to notify you that we have found violations of the Clean Air Act (the Act), 42 U.S.C. §§ 7401-7671q, and its implementing regulations at the facility located at 1551 Empire Drive, Caro, Michigan (the Facility). The relevant statutory and regulatory background, factual background, finding of violations, and environmental impact of these violations are set forth in detail below.

This FOV is issued in accordance with Section 113(a)(3) of the Act, 42 U.S.C. § 7413(a)(3), which authorizes the Administrator to take certain enforcement actions after notifying a person that it is in violation of the Act. The Administrator has delegated the authority to issue this FOV to the Regional Administrator, who in turn has re-delegated that authority to the Director of the Air and Radiation Division for Region 5 of the EPA.

Relevant Statutory and Regulatory Background

Title V Permit Program

1. Title V of the Act, 42 U.S.C. §§ 7661-7661f, established an operating permit program for major sources of air pollution.
2. In accordance with Section 502(b) of the Act, 42 U.S.C. § 7661a(b), the EPA promulgated regulations establishing the minimum elements of a Title V permit program to be administered by any air pollution control agency. See 57 Fed. Reg. 32295 (July 21, 1992). Those regulations are codified at 40 C.F.R. Part 70.
3. Section 502(d) of the Act, 42 U.S.C. § 7661a(d), provides that each state must submit to the EPA a permit program meeting the requirements of Title V.
4. On December 4, 2001, EPA approved the State of Michigan Title V operating permit program with an effective date of November 30, 2001. See 40 C.F.R. Part 70, Appendix A. 66 FR 62949.

5. Section 502(a) of the Act, 42 U.S.C. § 7661a(a), and 40 C.F.R. § 70.7(b) provide that, after the effective date of any permit program approved or promulgated under Title V of the Act, no source subject to Title V may operate except in compliance with a Title V permit.
6. 40 C.F.R. § 70.6(b)(1) provides that all terms and conditions in a Title V permit are enforceable by the EPA.

POET Permit Requirements

7. The Michigan Department of Environmental Quality (MDEQ) issued Renewable Operating Permit No. MI-ROP-N6996-2008 to the Facility with an effective date of August 25, 2008 (2008 Title V Permit). MDEQ issued modifications to the permit on June 4, 2009, and April 23, 2012.
8. MDEQ renewed the permit by issuing Renewable Operating Permit No. MI-ROP-N6996-2013 to the Facility with an effective date of September 25, 2013 (2013 Title V Permit).
9. For FG FERMENTERS, Condition IV.1 of the 2008 Title V Permit states that POET shall not operate any equipment in FG FERMENTERS “unless the scrubber (CE004) and chiller are installed, maintained and operated in a satisfactory manner.”
10. For FG FERM&DIST, Condition IV.2 of the 2013 Title V Permit states that POET shall not operate any equipment in FG FERM&DIST “unless the scrubber (CE004) is installed, maintained and operated in a satisfactory manner.”
11. For FG FERMENTERS, Condition I.1 of the 2008 Title V Permit limits volatile organic compound (VOC) emissions to 12.0 pounds per hour and acetaldehyde emissions to 0.67 pounds per hour.
12. For FG FERM&DIST, Condition I.1 of the 2013 Title V Permit limits VOC emissions to 14.0 pounds per hour and acetaldehyde emissions to 0.67 pounds per hour.
13. General Condition 24 of the 2008 Title V Permit requires POET to report annually the actual emissions of each regulated air pollutant for each emission unit.
14. General Condition 24 of the 2013 Title V Permit requires POET to report annually the actual emissions of each regulated air pollutant for each emission unit.

Relevant Factual Background

15. POET owns and operates an ethanol production plant located at 1551 Empire Drive, Caro, Michigan (the Facility).
16. In the 2008 Title V Permit, the Facility describes FG FERMENTERS as including six fermenters and a beer well.

17. In the 2013 Title V Permit, the Facility describes FG FERM&DIST as “fermentation and distillation operations,” including six fermenters, a beer well, a beer stripper, a rectifier, a side stripper, a molecular sieve, a yeast tank, and an evaporator.
18. Emissions from the fermentation and distillation operations are controlled by a packed-bed wet scrubber (CE004). Periods of downtime at the scrubber result in emissions from fermentation and distillation being vented to the atmosphere.
19. The following table summarizes scrubber downtime when emissions from FG FERMENTERS, and FG FERM&DIST were directly vented to the atmosphere.

| Year | Scrubber Downtime (hours) |
|-------------------|------------------------------|
| 2010 | 0.7 |
| 2011 | 47.1 |
| 2012 | 51.1 |
| 2013 | 41.5 |
| 2014 ¹ | 0.8 |

20. In January 2013, POET performed emissions testing at the outlet of the FG FERM&DIST scrubber. The testing identified an emission rate of 8.95 pounds of VOC per hour, and 0.53 pounds of acetaldehyde per hour. Based on an estimated control efficiency of 97%, as required by the 2013 Title V Permit, the uncontrolled emissions from FG FERM & DIST are at least 298 pounds of VOC per hour and 17.67 pounds of acetaldehyde per hour.
21. In February 2006, POET performed emissions testing at the Fluidized Bed Cooler (EU FBCOOLER). The testing identified an average emission rate of 0.58 pounds VOC “as carbon” per hour. Using a conversion factor of 1.92 pounds of VOC per pound of carbon, the total VOC emission rate for the unit is estimated to be 1.11 pounds per hour.
22. In January 2013, POET performed emissions testing at the EU FBCOOLER. The testing identified an emission rate of 2.36 pounds of VOC per hour.
23. In the Michigan Annual Emission Reporting System (MAERS) Reports for 2009, 2010, 2011, 2012, and 2013, POET reports operating the EU FBCOOLER for 8760 hours in each year.
24. Based on the information in paragraphs 21 and 23, the VOC emissions for EU FBCOOLER were 4.9 tons per year in 2009, 2010, 2011, and 2012. POET reported zero emissions of VOCs for the unit in each of these years.

¹ From January 1 through May 12, 2014

25. Based on the information in paragraphs 22 and 23, the VOC emissions for EU FBCOOLER were 10.3 tons per year in 2013. POET reported zero emissions of VOCs for the unit in 2013.
26. In February 2006, POET performed emissions testing at the thermal oxidizer (TO) and the regenerative thermal oxidizer (RTO) serving the dried distiller's grains with solubles (DDGS) dryers and centrifugation (FG DDGSDRYERS). During the testing, both the TO and the RTO were operating and sampled at the same time. The testing identified an emission rate of 0.37 pounds of VOC per hour from the TO and an emission rate of 1.91 pounds of VOC per hour from the RTO.
27. Based on TO and RTO operating data submitted to EPA by POET, during 2012, the TO and the RTO operated for 7975 hours. During the remaining 785 hours of the year, the dryers were reportedly down.
28. Using operational data and established emissions factors, combined actual VOC emissions from the TO and RTO for 2012 were 9.3 tons.
29. In the MAERS Report for 2012, POET reported combined VOC emissions of 4.7 tons from the TO and RTO controlling the DDGSDRYERS.
30. In January 2013, POET performed emissions testing at the TO and the RTO serving the DDGSDRYERS. During the testing, both the TO and the RTO were operating and sampled at the same time. The testing identified an emission rate of 0.94 pounds of VOC per hour from the TO and an emission rate of 1.40 pounds of VOC per hour from the RTO.
31. Based on TO and RTO operating data submitted to EPA by POET, during 2013, the TO and the RTO operated for 8220 hours. During the remaining 540 hours of the year, the dryers were reportedly down.
32. Using operational data and established emissions factors, combined actual VOC emissions from the TO and RTO for 2013 were 9.6 tons.
33. In the MAERS Report for 2013, POET reported combined VOC emissions of 4.7 tons from the TO and RTO controlling the DDGS DRYERS.

Finding of Violations

34. POET operated FG FERMENTERS during scrubber downtime from January 1, 2010, through September 24, 2013, in violation of FG FERMENTRS Condition IV.1 of the 2008 Title V Permit.
35. POET operated FG FERM&DIST during scrubber downtime from September 25, 2013, through May 12, 2014, in violation of FG FERM&DIST Condition IV.2 of the 2013 Title V Permit.

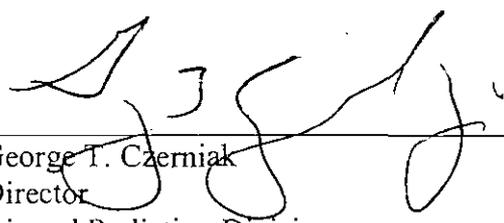
- 36. Prior to September 25, 2013, POET exceeded the emission limits for VOC and for acetaldehyde established for FG FERMENTERS in Condition I.1 of the 2008 Title V Permit limits during scrubber downtime.
- 37. From September 25, 2013, to the present, POET exceeded and continues to exceed the limits for VOC and for acetaldehyde established for FG FERM&DIST in Condition I.1 of the 2013 Title V Permit during scrubber downtime.
- 38. In 2009, 2010, 2011, and 2012, POET failed to report annual VOC emissions for EU FBCOOLER of 4.9 tons per year, in violation of General Condition 24 of the 2008 Title V Permit.
- 39. In 2013, POET failed to report actual annual VOC emissions for EU FBCOOLER of 10.3 tons, in violation of General Condition 24 of the 2013 Title V Permit.
- 40. In 2012, POET underreported actual annual VOC emissions for the RTO and TO controlling the DDGS DRYERS, in violation of General Condition 24 of the 2008 Title V Permit.
- 41. In 2013, POET underreported actual annual VOC emissions for the RTO and TO controlling the DDGS DRYERS, in violation of General Condition 24 of the 2013 Title V Permit.

Environmental and Health Impacts of Violations

- 42. The violations cited above resulted in increased emissions of VOCs. VOCs are photochemical oxidants associated with a number of detrimental health, environmental, and ecological effects. In the presence of sunlight, and influenced by a variety of meteorological conditions, VOCs react with oxygen in the air to produce ground-level ozone.
- 43. The violations cited above resulted in increased emissions of hazardous air pollutants, particularly acetaldehyde. Acute exposure to acetaldehyde results in irritation of the eyes, skin, and respiratory tract, as well as erythema, coughing, pulmonary edema, and necrosis. Chronic exposure to high levels of acetaldehyde has been linked to effects similar to alcoholism, slight anemia, as well as nasal, trachea, and kidney pathology. EPA lists acetaldehyde as a probable human carcinogen.

2/15/15

 Date



 George T. Czerniak
 Director
 Air and Radiation Division

CERTIFICATE OF MAILING

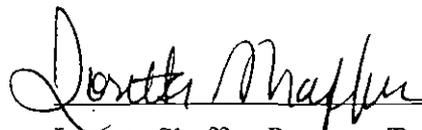
I, Loretta Shaffer, certify that I sent a Finding of Violation, No. EPA-5-15-MI-01 by Certified Mail, Return Receipt Requested, to:

David R. Gloer
General Manager
POET Biorefining - Caro
1551 Empire Drive
Caro, Michigan 48723

I also certify that I sent copies of the Finding of Violation by first-class mail to:

Chris Hare, Supervisor
Air Quality Division
Michigan Department of Environmental Quality
401 Ketchum Street, Suite B
Bay City, Michigan 48708

On the 9 day of February 2015.



Loretta Shaffer, Program Technician
AECAB, PAS