

BEFORE THE DEPARTMENT OF ENVIRONMENT AND ENERGY

IN THE MATTER OF)	Case No. 3618
)	
POET BIOREFINING – FAIRMONT, LLC)	CONSENT ORDER
)	
NDEE FID #86026)	
)	
RESPONDENT.)	
)	

I. INTRODUCTION

1. The Nebraska Department of Environment and Energy (NDEE or Department) and POET Biorefining – Fairmont, LLC (Respondent), voluntarily enter into this Consent Order. The Consent Order establishes a schedule for Respondent to comply with the Nebraska Environmental Protection Act (NEPA), Neb. Rev. Stat. §§ 81-1501 *et seq.*, and Neb. Admin. Code, Title 129, *Nebraska Air Quality Regulations* (Title 129).

II. JURISDICTION

2. NDEE is the agency of the State of Nebraska charged with the duty, pursuant to Neb. Rev. Stat. § 81-1504(1), of exercising exclusive general supervision, administration, and enforcement of NEPA and Title 129.

3. NDEE is charged with the duty, pursuant to Neb. Rev. Stat. § 81-1504(4) to act as the state air pollution control agency for all purposes of the federal Clean Air Act (CAA), as amended, 42 U.S.C. § 7401 *et seq.*

4. NDEE is charged with issuing orders requiring corrective actions reasonably required to prevent recurrence of a release. Neb. Rev. Stat. § 81-15,304.

5. In signing this Consent Order, Respondent agrees to undertake all actions required by this Consent Order. Respondent agrees not to contest the jurisdictional allegations referenced herein in any action to enforce this Consent Order. Respondent waives its rights to further hearing as

provided in Neb. Rev. Stat. § 81-1507 and the Administrative Procedure Act, Neb. Rev. Stat. § 84-901 *et seq.*

III. PARTIES

6. The parties to this Consent Order are NDEE and Respondent POET Biorefining - Fairmont, LLC, a Delaware limited liability company registered to do business in Nebraska. This Consent Order is binding on NDEE, Respondent, and any successors and assigns of the parties.

IV. FINDINGS OF FACT

7. Respondent owns and operates a denatured ethanol manufacturing facility located at 1214 Road G, Fairmont, Fillmore County, Nebraska. Respondent acquired the facility on June 4, 2021, from Flint Hills Resources Fairmont, LLC. The legal description for the facility is S¼ E¼ Section 36, Township 8N, Range 3W, Fillmore County, Nebraska.

8. As part of its ethanol manufacturing activities, Respondent emits various regulated air pollutants including, but not limited to, volatile organic compounds (VOC).

9. Respondent's emissions of VOC and other regulated air pollutants require Respondent to obtain an air quality construction permit, among other environmental permits, pursuant to Neb. Rev. Stat. § 81-1506(4)(a) and Title 129, Chapter 3, § 001.03; and to operate under the terms and conditions of its air quality construction permit, pursuant to Neb. Rev. Stat. § 81-1506(4)(b) and (c) and Title 129, Chapter 3, § 003.01.

10. On December 29, 2021, NDEE issued Respondent its current Air Quality Class I Operating Permit, Significant Revision, # OP20M1-040. On October 5, 2020, NDEE issued Air Quality Class I Operating, # OP15R1-036, to Flint Hills Resources Fairmont, LLC, Respondent's predecessor.



11. On July 5, 2022, NDEE issued Respondent its current air quality construction permit, #CP22-001, which supersedes Permit #CP20-034 in its entirety.

12. Respondent attended a meeting with NDEE staff on September 20, 2022. NDEE informed Respondent that, due to emissions issues related to the protein process at another ethanol plant, there may be reason to explore potential issues at Respondent's plant. Respondent agreed to investigate the protein process and stack S-150.

13. On December 16, 2022, Respondent submitted a follow-up communication to the NDEE outlining Respondent's review of publicly available data at the other ethanol facility previously referenced by the NDEE during the meeting on September 20, 2022, as potentially having a similar process. Respondent communicated High Performance Liquid Chromatography (HPLC) results from whole stillage and cook water tank steams consistent with what had been publicly shared by the other facility. Respondent committed to installing stack testing ports at next shutdown in spring 2023, and to conduct engineering stack testing. Respondent installed testing ports during annual maintenance shutdown in May 2023. Respondent conducted an engineering test of this unit on August 9, 2023, during an annual scheduled stack event.

14. On August 9, 2023, NDEE staff were on site at Respondent's ethanol manufacturing facility to observe performance testing of the CO₂ Scrubber (S40) and Protein Vacuum Cooler Dust Collector (S120) units. In addition to these units, Respondent also scheduled engineering testing on the protein process tank and equipment vent (S150). Testing was performed by American Engineering Testing (AET) of St. Paul, Minnesota.

15. The engineering testing of S150 was performed using a Fourier Transform Infrared (FTIR) system to record volatile organic compound (VOC) and hazardous air pollutant (HAP) concentrations emitted from the stack.

16. On August 11, 2023, Respondent's Director of Environmental sent an email to NDEE notifying NDEE that on August 9, 2023, Respondent discovered potential excess emissions from a protein stack vent (S150). The facility began controlled shutdown of the protein process on the evening of August 10, 2023, following completion of additional screening level engineering testing. The protein process was idled and the vent fan turned off by 7:00 am on August 11, 2023.

17. On September 8, 2023, Respondent sent a follow-up report pursuant to Neb. Admin. Code Title 129, Chapter 15, § 006. The report estimated the August 9, 2023, emissions as Acetaldehyde – 2.53 lb/hr; ethanol - 415.7 lb/hr; Total Detected & Non-Detected VOCs – <421.86 lb/hr, and Total Detected & Non-Detected HAPs - <2.74 lb/hr. These reported potential emissions exceed the construction and operating permit application emissions.

18. Respondent and its predecessor operated the protein process in the same configuration and emitted VOC and HAPs emissions from EP-S150 beginning on or around August 22, 2018, through the morning of August 11, 2023.

19. Respondent has operated in violation of Neb. Rev. Stat. § 81-1506(4)(b) and (c); Title 129, Chapter 3, § 003.01; permit condition IV. (A) (1) and (2) of Respondent's Air quality operating permit, #OP20M1-040; and permit condition IV. (A) of Respondent's air quality construction permit, #CP22-001, since on or around August 22, 2018, and until such time as Respondent voluntarily stopped the protein process and associated emissions from EP-S150 on the morning of August 11, 2023.

20. Respondent was initially made aware of a potential issue regarding the protein process and associated emissions at one ethanol facility in Nebraska on September 20, 2022. Acting in communication with NDEE, Respondent addressed the potential for excess emissions as part of



its annual testing process. Immediately following engineering test results, Respondent initiated corrective action on August 9, 2023

21. Sometime between August 11, 2023, and September 2, 2023, Respondent constructed a new vent on ductwork from EP-S150 to the TO/HRSG. This vent was not included in Respondent's August 23, 2023, Air Quality Construction Permit application for a minor modification.

22. On September 14, 2023, Respondent notified NDEE that the protein process tanks were restarted on September 2, 2023.

23. The construction of the new vent on ductwork EP-S150 to the TO/HRSG system allows Respondent to continue to vent VOCs and HAPs emissions directly to the atmosphere and bypass the thermal oxidizer (EP S10) when the control equipment (TO/HRSG system) undergoes emergency shutdown events.

V. COMPLIANCE SCHEDULE

24. Respondent shall bring their facility into compliance with all requirements of NEPA and Title 129 including, but not limited to completion of the following:

A. In compliance with Neb. Rev. Stat. § 81-15,304(4), immediately remove the vent constructed on the ductwork from EP-S150 to the TO/HRSG system. Documentation detailing the removal of this vent, including photographs, shall be submitted to the NDEE. If Respondent wishes to retain the vent:

i. Respondent is ordered to submit a significant permit revision to the existing air quality construction permit for said vent within thirty days of the signing of this order to incorporate monitoring of this vent into the current permitted facility structure:



- a. The significant permit revision application shall include the mechanisms by which the automated valve will be continuously monitored for valve position, to identify date and period of time in the event that the automated valve to the vent is opened, and ability to detect if any excess emissions were released through the vent during normal operations by visible emissions survey or during upset conditions utilizing good engineering estimates.
 - ii. Respondent shall be required to comply with Title 129, Chapter 15, § 005.15A Notification; § 005.15B Recordkeeping; § 005.15C Reporting; and § 006 Compliance.
 - iii. Any excess emissions released through this vent shall be subject to the fees as defined in Title 129, Chapter 6, § 9.
- B. Respondent conducted performance testing during the week of October 13, 2023, to test VOC, HAP, and acetaldehyde emissions at EP-S10 in accordance with Title 129, Chapter 34, observed by NDEE staff, for the reconfigured routing of the protein tank process emissions stream from EP-S150 to TO/HRSG unit (C10A: TO/HRSG #1 and C10B: TO/HRSG #2) and EP-S10.
- C. Respondent installed test ports in the duct work from EP-S150 to TO/HRSG Operations (C10A: TO/HRSG #1 and C10B: TO/HRSG #2) and EP-S10. The test port locations meet the requirements of EPA Method 1 and allow stack testing of the emissions being sent from EP S150 to the Protein Dryer duct work (EP-S10). This stack testing shall also occur under the conditions specified in Paragraph 24. B.
- D. TO/HRSG Operations (C10A: TO/HRSG #1 and C10B: TO/HRSG #2) shall be operated in accordance with the emission limits for S10 found in construction permit



#CP22-001 condition III. (C)(2) and permit condition III. (C)(3)(a) of Respondent's Air quality operating permit, #OP20M1-040.

- E. If the combined emission limits for S10 (TO/HRSG Operations), S40 (Fermentation Operations), and S70 (DDGS Coolers) are exceeded during performance testing during the week of October 9, 2023, Respondent may do stack testing to retest the combined emissions for S10, S40, and S70 within thirty days.
- F. Respondent shall keep weekly records of percent ethanol by weight concentration of the cook water tanks (EU12) utilizing HPLC for a period of one year. The frequency of this testing may be revisited upon agreement of the parties.
- G. Within 90 days of receipt from third-party stack testing company of valid performance testing, Respondent agrees to submit an application for significant modification of air quality construction permit #CP22-001 (and, if necessary, OP20M1-040.) containing and proposing the permanent facility designs, process configurations, emission points, and associated emission units that will achieve and require:
 - iv. Compliance with permit condition III. (C)(2) of Respondent's air quality construction permit, #CP22-001.
 - v. Any other design, construction, and configuration modifications necessary to comply with permit condition III. (C) of Respondent's air quality construction permit, #CP21-014;
 - vi. If applicable, compliance with the Prevention of Significant Deterioration of Air Quality (PSD) requirements of Title 129, Chapter 4; and
 - vii. If applicable, compliance with the requirements of Title 129, Chapters 12 (New Source Performance Standards and Emission Limits for Existing Sources) and 13 (Hazardous Air Pollutants).



H. Respondent shall resubmit annual emission inventories for the years 2021 and 2022 with fee payments within thirty days of receipt from a third-party stack testing company of valid performance testing. Actual emission calculations should be based on the results of compliance stack testing that meets the requirements of appropriate EPA methodology. Failure to submit fees in a timely manner shall be subject to the late payment fees noted in Title 129, Chapter 6, § 009.05B.

25. Submittals to the Department under this Consent Order shall refer to FID #86026 and be sent to:

Brad Pracheil
Division Administrator
Inspection & Compliance Division
Nebraska Department of Environment and Energy
P.O. Box 98922
Lincoln, NE 68509-8922

VI. SATISFACTION AND COMPLIANCE WITH OTHER LAWS

26. Respondent agrees to perform all actions required in this Consent Order in accordance with all applicable local, state, and federal laws, regulations, and permit.

VII. RESERVATION OF RIGHTS

27. Nothing in this Consent Order shall be construed to limit the power and authority of the NDEE to take or order any action necessary to protect public health, welfare, or the environment or to enforce any provision of NEPA, Title 129, and any rules, regulations, orders, or permits issued pursuant to NEPA; including recovery of civil penalties for violations of NEPA, Title 129, and air quality construction permit CP21-014 as provided under Neb. Rev. Stat. § 81-1508.02.

VIII. NEGATION OF AGENCY RELATIONSHIP

28. Nothing in this Consent Order shall be construed to create, either expressly, or by implication, the relationship of agency between NDEE and Respondent.

IX. AMENDMENTS

29. This Consent Order may be modified and amended in writing by mutual agreement of NDEE and Respondent.

X. EFFECTIVE DATE

30. This Consent Order shall become effective after signature by Respondent and the NDEE Director or an authorized designee.

XII. SEVERABILITY

30. If any provision or authority of this Consent Order or the application of this Consent Order to any party or circumstances is held by any judicial or administrative authority to be invalid, the application of such provisions to other parties or circumstances and the remainder of the Consent Order shall remain in force and shall not be affected thereby.

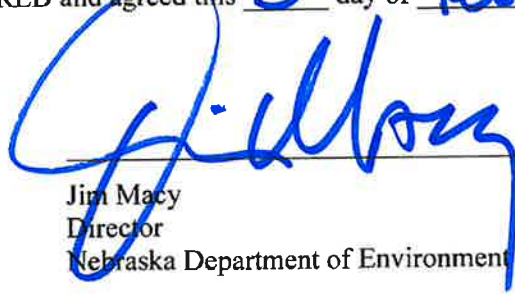
XIII. SIGNATURES

32. For Respondent: The undersigned certifies that the undersigned possesses actual authority to enter into this Consent Order on behalf of Respondent and to bind Respondent.

Signature: 
Title: General Manager
Date: 02/05/2024

33. For the Department:

IT IS SO ORDERED and agreed this 5th day of February, 2024.


Jim Macy
Director
Nebraska Department of Environment and Energy