

IOWA DEPARTMENT OF NATURAL RESOURCES

ADMINISTRATIVE CONSENT ORDER

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| IN THE MATTER OF: POET BIOREFINING – IOWA FALLS, LLC | ADMINISTRATIVE CONSENT ORDER NO. 2023-AQ- 12 |
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TO: POET Biorefining – Iowa Falls, LLC
Corporation Service Company, Registered Agent
505 5th Avenue, Suite 729
Des Moines, Iowa 50309

POET Biorefining – Iowa Falls, LLC
Matt Struck, Environmental Health and Safety Manager
21050 140th Street
Iowa Falls, Iowa 50126

POET Biorefining – Iowa Falls, LLC
Jim Schonert, General Manager
21050 140th Street
Iowa Falls, Iowa 50126

I. SUMMARY

This administrative consent order is entered into between the Iowa Department of Natural Resources (DNR) and POET Biorefining – Iowa Falls, LLC (POET) for the purpose of resolving air quality violations. In the interest of avoiding litigation, the parties have agreed to the provisions below.

Any questions regarding this administrative consent order should be directed to:

Relating to technical requirements:

Mark Fields
Iowa Department of Natural Resources
Wallace State Office Building
502 East Ninth Street
Des Moines, Iowa 50319-0034
Phone: 515-343-6589

Relating to legal requirements:

Anne Preziosi, Attorney for the DNR
Iowa Department of Natural Resources
Wallace State Office Building
502 East Ninth Street
Des Moines, Iowa 50319-0034
Phone: 515-238-3429

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Payment of penalty to:

Director of the Iowa DNR
Wallace State Office Building
502 East Ninth Street
Des Moines, Iowa 50319-0034

II. JURISDICTION

This administrative consent order is issued pursuant to the provisions of Iowa Code sections 455B.134(9) and 455B.138(1), which authorize the director to issue any order necessary to secure compliance with or prevent a violation of Iowa Code chapter 455B, Division II (air quality), and the rules promulgated or permits issued pursuant to that part; and Iowa Code section 455B.109 and 567 Iowa Administrative Code (IAC) chapter 10, which authorize the director to assess administrative penalties.

III. STATEMENT OF FACTS

Background

1. POET has a dry-mill grain processing facility located in Iowa Falls, Iowa. POET produces over 115 million gallons of ethanol per year. POET also produces high-quality livestock feed solutions for regional, national and international markets. On June 1, 2021, POET acquired this facility, which was formerly known as the Flint Hills Resources Iowa Falls and Hawkeye Renewables, LLC ethanol facilities.

2. Prior to POET's acquisition of this Iowa Falls Ethanol facility in June 2021, two emission control units at the facility had consistently been out of compliance with permitted limits contained in air quality construction permits, and with stack testing requirements contained in air quality construction permits. These emission points are Emission Point (EP) S40 (fermentation process) and EP S40B (fermentation process scrubbers).

- On September 13, 2018, DNR issued a Notice of Violation letter (NOV) for a failed stack test on EP S40B for Acetaldehyde.
- On September 14, 2017, DNR issued an NOV for stoppage of June 15, 2017, stack testing when emission violations were being demonstrated.
 - The NOV dated September 14, 2017, contained the following language: "Flint Hills Resources made repairs to the chiller system and conducted a second compliance test for EP S40 and EP S40B on June 19,

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2017. This testing shows Flint Hills in compliance with the fermentation process's VOC limits.”

- On October 20, 2016, DNR issued an NOV for failure to conduct stack testing when preliminary emissions¹ were shown to exceed construction permit limits for EP S40.
- On September 23, 2011, DNR issued an NOV for failure to maintain control equipment associated with EP S40 and EP S40B and for stack test results showing emission limit violations.

3. On September 27, 2021, DNR issued Construction Permit Nos. 03-A-1316-S10 (EP S40) and 05-A-239-S9 (EP S40B), to POET.

POET has failed to comply with the provisions of air quality construction permits for EP S40 and EP S40B

4. POET has failed to comply with the Condition 1 (Emission Limits) of Construction Permit Nos. 03-A-1316-S10 (EP S40) and 05-A-239-S9 (EP S40B).

- Condition 1 establishes a Prevention of Significant Deterioration (PSD) Synthetic Minor combined emission limit of 20.0 lb/hr for volatile organic compounds (VOC), 2.12 lb/hr for total hazardous air pollutants (Total HAP), 0.90 lb/hr for Acetaldehyde, and 0.36 lb/hr for Single HAP (Acrolein) for EP S40 and EP S40B.
 - As stated above, EP S40 and EP S40B have construction permits that contain combined emissions limits for VOC, Total HAP, and Single HAP. Therefore, an Excess Emissions report of VOC, Total HAP, or Single HAP emissions for either the EP S40 or EP S40B VOC, Total HAP, or Single HAP permitted limits constitutes excess emissions for both emission points.
 - According to the written excess emission report dated December 10, 2021, for the excess emission event covering December 6, 2021, through December 8, 2021, preliminary emissions test data demonstrated violations of the combined VOC, Total HAP, Acetaldehyde and Acrolein emission limits on EP S40 and S40B.

¹ Preliminary emissions testing is any emissions testing conducted on an emission source from the time a stack test has been scheduled with DNR until the time the DNR scheduled compliance stack test has begun. This does not exclude any other emissions data from being used as credible evidence per 567 IAC 21.5.

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- According to the written excess emission report dated December 13, 2021, for the excess emission event covering December 8, 2021, through December 9, 2021, preliminary emissions test data demonstrated violations of the combined VOC, Total HAP, Acetaldehyde, Methanol, and Acrolein emission limits on EP S40 and S40B.
- According to the written excess emission report received June 9, 2022, for the excess emission event covering May 31, 2022, through June 2, 2022, preliminary emissions test data demonstrated a violation of the combined VOC, Total HAP, Acetaldehyde and Acrolein emission limits on EP S40 and S40B.

5. POET has failed to comply with Condition 5 (Operating Requirements with Associated Monitoring and Recordkeeping), Condition 8 (Owner and Operator Responsibility), and Condition 11 (Excess Emissions) of Construction Permit No. 03-A-1316-S10 (EP S40B).

- Conditions 5(D) and 5(E) require water flow rate and additive rate to the scrubber to be maintained at the level of the most recent stack test that demonstrated compliance with the emission rates.
 - According to the excess emission report received December 9, 2021, for the excess emission event covering the time period of 11:16 pm on December 8, 2021, through 12:01 am on December 9, 2021, the scrubber was shut down for maintenance and cleaning activities while underlying equipment was in operation. Emissions were released uncontrolled from EP S40, resulting in violations of applicable permitted limits for VOC, Total HAP, and Single HAP. Water and additive rates were not maintained as required by the permit.
- Condition 8 requires that adequate operation and maintenance be provided to ensure that no condition of air pollution is created.
 - The December 7, 2021, December 9, 2021, and June 9, 2022, excess emission reports demonstrate that adequate operation and maintenance of the Fermentation Process was not conducted to prevent air pollution.

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- Condition 11 requires that cleaning of control equipment, which does not require the shutdown of process equipment, shall be limited to one (1) six-minute period per each one (1) hour period.
 - Scrubber waste gas was routed to the EP S40 scrubber EP S40 as maintenance activities were executed on EP S40B.
 - Isolation activities were performed for a total of 22 minutes during two separate time periods. Performing cleaning isolation activities for 22 minutes while emissions from EP S40B were released uncontrolled is a violation of Condition 11 and of 567 Iowa Administrative Code (IAC) rule 24.1(1).
 1. From 11:46 pm on December 8, 2021, through 12:01 am on December 9, 2021, a blind was inserted into the inlet piping of EP S40B for the control of hazardous energy to accommodate human safety requirements to perform maintenance.
 - The gas flow to EP S40 was temporarily routed to the atmosphere during blind placement activities.
 2. After maintenance was completed, from 7:32 am to 7:39 am on December 9, 2021, the blind was removed.
 - The gas flow to EP S40 was temporarily routed to the atmosphere during blind removal activities.

The construction permit violations of the provisions of the air quality construction permits for EP S40 and EP S40B have been demonstrated through stack test and excess emissions data

6. The owner of new or existing equipment or the owner's authorized agent shall conduct emission tests to determine compliance with applicable rules in accordance with the provisions of 567 IAC 25.1(7). POET has failed to comply with the rules that would allow a demonstration of compliance through stack

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testing. First, POET was required to notify DNR in writing not less than 30 days before a stack test. The purpose of this notice is to allow DNR to observe the stack test. If the owner or operator does not provide timely notice to the DNR, then DNR shall not consider the test results or performance evaluation results to be a valid demonstration of compliance with applicable rules or permit conditions. Second, a testing protocol is required to be submitted to DNR at least 15 days before the owner or operator conducts the stack test. Third, a representative of DNR shall be permitted to witness the stack test.

7. Preliminary emissions tests are commonly conducted by ethanol facilities prior to conducting a compliance stack test. Preliminary emissions tests are not subject to the same notification and EPA test method requirements as compliance stack tests. Any emissions data gathered during the preliminary emissions testing may be used as credible evidence consistent with 40 CFR sections 60.11, 61.12, and 567 IAC 21.5.

8. As stated above, the facility was acquired by POET on June 1, 2021. On June 15, 2021, POET conducted compliance stack testing on EP S40 and EP S40B. This compliance stack testing demonstrated compliance with the permitted VOC, Total HAP, and Single HAP emission limits.

9. On November 1, 2021, POET submitted a stack test protocol, as required, to schedule compliance stack testing with DNR for EP S40 and EP S40B on December 8 and 9, 2021.

10. On December 7, 2021, POET reported exceedances of emission limits on EP S40 and EP S40B to DNR Field Office No. 2, based on preliminary emissions test data. POET also contacted the DNR Air Quality Bureau to notify that the compliance stack testing would not be conducted as scheduled due to preliminary emissions test data indicating emission results of over double the 20.0 lb/hr combined VOC emission limit contained in the construction permits for EP S40 and EP S40B. POET was notified at that time by DNR that compliance stack testing needed to be conducted as scheduled on December 8 and 9, 2021, regardless of emission levels. Based on the December 7, 2021, preliminary emissions testing results, the scheduled compliance stack testing on December 8 and 9, 2021, was cancelled by POET. POET's cancellation of the scheduled compliance stack testing did not provide DNR the opportunity to observe the compliance stack testing scheduled to be conducted on December 8 and 9, 2021.

11. On December 9, 2021, POET again reported excess emissions of emission limits on EP S40 and EP S40B to Field Office No. 2, based on preliminary emissions test data. The air pollution control equipment associated with EP S40B was "blinded" and emissions were released uncontrolled for 45 minutes to conduct

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maintenance and cleaning activities while underlying equipment was in operation. As stated above, this testing was not observed by DNR.

12. On December 10, 2021, POET submitted the required written follow-up to the December 7, 2021, excess emissions report. POET reported excess emissions from EP S40 and EP S40B in the following amounts: VOC - 1862 lbs, Acetaldehyde – 15.55 lbs, Acrolein – 0.41 lbs, and Total HAP – 3.23 lbs.

13. Also, on December 13, 2021, POET submitted the required written follow-up to the December 8 and 9, 2021, excess emissions report. POET reported excess emissions on EP S40 and EP S40B in the following amounts: VOC - 251 lbs, Acetaldehyde – 1.8 lbs, Methanol – 0.05 lbs, and Total HAP – 1.85 lbs.

14. In January 2022, POET submitted a stack test protocol to reschedule the cancelled December 2021 compliance stack testing on EP S40 and EP S40B for DNR to observe the stack testing on February 16 through 19, 2022.

15. On January 19, 2022, POET submitted a stack test report for the December 2021 test event without results from the EP S40 and EP S40B simultaneous compliance stack testing that had been scheduled with DNR to be conducted December 8 and 9, 2021.

16. On February 16, 2022, POET conducted compliance stack testing on EP S40 and EP S40B that demonstrated compliance with the permitted VOC, Total HAP, and Single HAP limits.

17. On February 28, 2022, DNR issued an NOV to POET for violations resulting from the December 2021 test event on EP S40 and EP S40B. VOC, Total HAP, Acetaldehyde, and Acrolein violations were documented for EP S40 and EP S40B. POET had postponed the December 8 and 9, 2021, stack test event. POET reported the excess emissions violation. DNR was unable to directly observe a compliance stack test that would have resulted in a documented violation. Violations are based on POET's reported preliminary emission test results in excess of emissions limits and on excess emission reports submitted for the time frame of scheduled compliance testing.

18. On April 29, 2022, POET submitted a test protocol to DNR scheduling compliance stack testing on EP S40 and EP S40B for June 1, 2022.

19. On May 31, 2022, POET contacted DNR Field Office No. 2 to report preliminary emissions data demonstrating emissions on EP S40 and EP S40B

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were shown to be in excess of the permitted emission limits. VOC and Acetaldehyde emissions were reported to be in excess of the permitted limits for EP S40 and EP S40B. DNR did not observe the May 31, 2022, preliminary emissions testing. POET claimed the inability to test on June 1, 2022, and cancelled the scheduled compliance test that DNR would have observed. POET's cancellation of the scheduled compliance stack testing did not provide DNR the opportunity to observe the compliance stack testing on June 1, 2022. Additionally, the emission limit violations were not documented by completing a compliance stack test.

20. On June 1, 2022, POET contacted DNR requesting to modify the April 29, 2022, test protocol to allow additional sources or scrubber operating scenarios to be tested. DNR denied the request since the facility had not met the required stack test notification and stack test protocol time frames.

21. On June 3, 2022, POET reported excess emissions on EP S40 and EP S40B. POET reported pressure that built up in the fermentation process necessitated the EP S40B scrubber to be restarted.

22. On June 7, 2022, POET submitted two written excess emission reports dated June 7, 2022:

- First, for the May 31 through June 2, 2022, excess emission event POET reported excess emissions on EP S40 and EP S40B in amounts of VOC - 1056 lbs, Acetaldehyde – 107 lbs, Acrolein – 0.47 lbs, and Total HAP – 62 lbs.
- Second, for the June 2 through 3, 2022, excess emission event POET reported excess emissions on EP S40 and EP S40B in amounts of VOC – 63.03 lbs, Acetaldehyde – 6.36 lbs, Acrolein – 0.03 lbs, and Total HAP – 3.70 lbs.

23. POET's June 7, 2022, follow-up report to DNR stated that the excess emissions started on May 31, 2022, while POET was collecting preliminary emissions data from EP S40B. The excess emissions event ended on June 2, 2022, when POET reduced production at the facility, which allowed the emissions to drop below the permitted limits. However, the production levels were raised back to full rates after the June 7, 2022, reduced rate compliance stack test that demonstrated compliance.

24. DNR issued a July 8, 2022, NOV to POET for VOC violations resulting from the May 31, 2022, unobserved preliminary emissions test on EP S40 and EP S40B. In addition, Acetaldehyde, Acrolein, and Total HAP violations

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were documented on EP S40B. POET postponed the June 1, 2022, stack test event. POET reported the excess emissions violation. DNR was unable to directly observe a compliance stack test that would have resulted in a documented violation. Violations are based on POET's reported preliminary emission test results in excess of emissions limits and excess emission reports submitted for the scheduled compliance test event timeframe.

POET has failed to comply with the provisions of air quality construction permits for EP S10B

25. POET has failed to comply with the provisions of Condition 6, (*Continuous Emissions Monitoring Systems (CEMS)*) of Construction Permit No. 05-A-238-S10 (EP S10B, DDGS Dryers and Distillation).

- Condition 6 requires POET to install and operate a CEMS for Nitrogen Oxides (NO_x) pursuant to the provisions of 40 CFR 60, Appendices B and F.
 - POET reported that the NO_x monitor installed on EP S10B did not operate 7.6% of the time that the emission point was in operation during the 3rd Quarter of 2021. The analyzer was in operation 92.4% of the operating time during the quarter.

26. DNR issued a December 13, 2021, NOV to POET for excess CEMS analyzer downtime of 7.6% and an analyzer operating time of 92.4% during the 3rd quarter of 2021 for the EP S10B CEMS monitor.

POET has failed to timely obtain air quality construction permits

27. 567 IAC 22.1(1) requires no person shall construct, install, reconstruct or alter any equipment, control equipment without first obtaining a construction permit. On June 7, 2022, a DNR stack tester observed that the facility had installed and was operating equipment that allowed process water to be reused in the fermentation scrubber control equipment on EP S40 and EP S40B without first obtaining a construction permit, as required.

28. Process water reuse reduces the efficiency of the fermentation scrubbers and has shown to cause fermentation scrubber and emission issues at other POET facilities. The facility had conducted engineering testing under various levels of reuse water the day prior to determine emission impacts.

29. DNR issued a July 8, 2022, NOV for failure to obtain construction permit prior to installing and operating equipment to allow process water reuse in

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the fermentation scrubbers. POET submitted permit applications to include water reuse equipment and operating conditions. Construction Permit Nos. 03-A-1316-S11 and 05-A-239-S10 were issued on September 26, 2022, with updated process water monitoring and recordkeeping requirements.

POET has failed to consistently maintain and operate its equipment and control equipment in a manner consistent with good practice for minimizing emissions, as required

30. As detailed above, POET has failed to consistently maintain and operate its equipment and control equipment at all times in a manner consistent with good practice for minimizing emissions, as required by 567 IAC 24.2. In addition to the above excess emission events, POET has reported the following additional excess emission events related to the fermentation processes.

31. On August 19, 2021, POET reported exceedances of emission limits on EP S40 and EP S40B to Field Office No. 2. The August 18 and August 19, 2021, excess emissions were reportedly due to loss of water flow to the EP S40B CO₂ scrubber caused by a water flow meter malfunction. Excess emissions were reported as VOC – 667.77 lbs, Acetaldehyde - 3.174 lbs, and Total HAP – 2.45 lbs.

32. On September 29, 2021, POET reported exceedances of emission limits on EP S40 to Field Office No. 2. The September 29, 2021, excess emissions were reportedly due to loss of water flow to EP S40 CO₂ scrubber due to flow meter malfunction. Excess emissions were reported as VOC – 111 lbs and Acetaldehyde - 0.354 lbs.

33. On November 24, 2021, POET reported exceedances for Fermentation Tank #5 to Field Office No. 2 that occurred on November 23, 2021. On November 23, 2021, excess emissions were reportedly due to pressures experienced above the PRV Valve release set point, causing the uncontrolled release of emissions. Excess emissions were reported as VOC – 3.764 lbs.

34. On January 17, 2022, POET reported exceedances for the fermentation process to Field Office No. 2. The January 17, 2022, excess emissions were reportedly due to replacing a faulty CO₂ header expansion boot, causing the uncontrolled release of emissions. Excess emissions were reported as VOC – 965 lbs and Acetaldehyde - 0.257 lbs.

35. On April 26, 2022, POET reported exceedances for Fermentation Tanks #1, 2, and 7 to Field Office No. 2. The April 26, 2022, excess emissions were reportedly due to pressures experienced above the PRV Valve release set

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points, causing the uncontrolled release of emissions. Excess emissions were reported as VOC – 103.06 lbs and Acetaldehyde - 0.078 lbs.

36. On April 29, 2022, POET reported exceedances for Fermentation Tank #1-7 to Field Office No. 2. The April 29, 2022, excess emissions were reportedly due to pressures experienced above the PRV Valve release set points, causing the uncontrolled release of emissions. Excess emissions were reported as VOC – 145 lbs and Acetaldehyde - 0.2 lbs.

37. On June 20, 2022, POET reported exceedances for Fermentation Tank #5 to Field Office No. 2. The June 20, 2022, excess emissions were reportedly due to pressures experienced above the PRV Valve release set point, causing the uncontrolled release of emissions. Excess emissions were reported as VOC – 377.6 lbs and Acetaldehyde -1.231 lbs.

38. On August 19, 2022, POET reported August 18, 2022, exceedances for the Fermentation tank #2 to Field Office No. 2. The August 18, 2022, excess emissions were reportedly due to pressures experienced above the PRV Valve release set point due to the fermenter overheating, causing the uncontrolled release of emissions. Excess emissions were reported as VOC – 31.68 lbs.

39. On September 12, 2022, POET reported September 11, 2022, exceedances on the Fermentation tanks 2, 3, and 4 to Field Office No. 2. The September 11, 2022, excess emissions were reportedly due to pressures experienced above the PRV Valve release set point, causing the uncontrolled release of emissions. Excess emissions were reported as VOC – 31.18 lbs.

40. On September 16, 2022, POET reported exceedances on the Fermentation tanks 3 and 4 to Field Office No. 2. The September 16, 2022, excess emissions were reportedly due to pressures experienced above the PRV Valve release set point, causing the uncontrolled release of emissions. Excess emissions were reported as VOC – 10.72 lbs.

POET has failed to comply with the provisions of its Title V operating permit

41. Title V operating permit 19-TV-005 was issued to POET on September 9, 2019, and expires on September 24, 2024. The above-mentioned construction permits conditions also are contained in the Title V permit. Therefore, the above-stated construction permit violations also constitute violations of the Title V permit.

42. Also, due to past excess emission events and documented emission limits violations, DNR has required DNR-approved operations and maintenance (O&M) plans for the EP S40 and EP S40B air pollution control equipment.

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IV. CONCLUSIONS OF LAW

1. Iowa Code section 455B.133 provides that the Environmental Protection Commission (Commission) shall establish rules governing the quality of air and emission standards. The Commission has adopted 567 IAC chapters 20-35 relating to air quality.

2. Iowa Code section 455B.134(3) provides that the director of DNR shall grant, modify, suspend, terminate, revoke, reissue or deny permits for the construction or operation of new, modified, or existing air contaminant sources and for related control equipment.

3. 567 IAC 22.1(1) states unless exempted in subrule 22.1(2) or to meet the parameters established in paragraph “c” of this subrule, no person shall construct, install, reconstruct or alter any equipment, control equipment or anaerobic lagoon without first obtaining a construction permit. As stated above, POET has installed equipment without first obtaining the required construction permits.

4. 567 IAC 22.3(3) states that a permit may be issued subject to conditions which shall be specified in writing. Such conditions may include but are not limited to emission limits, operating conditions, fuel specifications, compliance testing, continuous monitoring, and excess emission reporting. As stated above, POET has failed to comply with the requirements of issued construction permits.

5. As stated above, POET failed to conduct stack testing showing compliance with permitted limits, as required. According to the provisions of 567 IAC 25.1(7), the owner of new or existing equipment or the owner’s authorized agent shall notify the department in writing not less than 30 days before a required test to determine compliance with applicable requirements of 567 IAC Chapter 23 or a permit condition. Such notice shall include the time, the place, the name of the person who will conduct the tests and other information as required by the DNR. If the owner or operator does not provide timely notice to the DNR, the DNR shall not consider the test results or performance evaluation results to be a valid demonstration of compliance with applicable rules or permit conditions. A testing protocol shall be submitted to the DNR no later than 15 days before the owner or operator conducts the compliance demonstration. A representative of the DNR shall be permitted to witness the tests.

6. POET has failed to consistently maintain and operate its equipment and control equipment at all times in a manner consistent with good practice for minimizing emissions, as required by 567 IAC 24.2.

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7. Title V Operating Permit No. 19-TV-005 was issued to POET on September 9, 2019, and expires on September 24, 2024. Violations of POET's construction permits, as stated above, also are violations of Title V Operating Permit No. 19-TV-005.

V. ORDER

THEREFORE, DNR orders and POET agrees to the following:

1. POET shall comply with the provisions of its air quality construction permits, including permitted limits, stack testing requirements, and completion of any changes required to conform with issued construction permits and achieve compliance; and POET shall comply with all state and federal applicable air quality requirements, ; and

2. Within 30 days of the date this Administrative Consent Order is signed by the Director, POET shall submit to DNR a written detailed report of the root cause of excess emissions from EP S40 and EP S40B from December 6 through 9, 2021, and from May 31, 2022 to July 28, 2022; and

3. Within 30 days of the date this Administrative Consent Order is signed by the Director, POET shall develop and submit for DNR approval updated O&M plans for EP S40 and EP S40B that will prevent the cause of the December 2021 and May through July 2022 excess emissions events from reoccurring; and

4. All future compliance stack testing shall be conducted as scheduled with DNR unless written approval is received from DNR prior to POET making compliance test schedule changes; and

5. Starting in the first full calendar quarter following the date this Administrative Consent Order is signed by the Director, POET shall begin conducting quarterly VOC, Total HAP, and Single HAP compliance stack testing simultaneously under maximum production rates on EP S40 and EP S40B, with at least 45 days between test events. At least one test must occur during June, July, or August of each year. If all emissions data from both preliminary emissions tests and compliance stack tests demonstrates the source is operating in compliance with the emission limits for 4 (four) consecutive tests, the testing maybe reduced to testing 2 (two) times a year with one test occurring in June, July, or August of each year. Emissions data that demonstrates noncompliance with the permitted emission limits or cancellation of a scheduled compliance test without written DNR approval will reset the quarterly testing requirement; and

6. For future stack testing of EP S40 and EP S40B, in addition to the required compliance stack test report, POET Iowa Falls shall submit to DNR all preliminary emissions testing VOC, Total HAP, and Single HAP raw data

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collected 30-days or less prior to a scheduled compliance stack test event. In addition to the raw emissions data, POET Iowa Falls shall submit a summary of hourly VOC, Total HAP, and Single HAP preliminary emissions test data. An hourly summary shall consist of the preliminary VOC, Total HAP, and Single HAP emissions data for each emission limit contained in the associated construction permit, beginning with the first full hour after the start of collecting emissions data and ending the last full hour prior to starting the compliance test or completing the preliminary emission test. POET Iowa Falls must provide the DNR with this data even if the compliance stack test is not completed as scheduled. For example, if Fourier Transform Infrared (FTIR) analyzer is brought online and begins collecting emissions data at 7:17am and preliminary test ends at 1:27 pm. The hourly emissions summaries for VOC, Total HAP, and Single HAP would be for emissions data collected from 7:17 am - 8:17 am, 8:18 am-9:17 am, 9:18 am-10:17 am, 10:18 am-11:17 am, 11:18 am to 12:17 pm, and 12:18 to 1:17 pm. The hourly summaries should present the data in units of the permitted VOC, Total HAP, and Single HAP emission limits for the emission point, and;

7. Within 30 days of the date this Administrative Consent Order is signed by the Director, POET shall submit to DNR air quality construction permit applications for EP S40 and EP S40B to determine if permitted bypass hours for uncontrolled emissions can be added to conduct quarterly inspections, control equipment cleaning, and control equipment maintenance on fermentation scrubbers EP S40 and EP S40B. These scheduled inspections, cleanouts, and maintenance shall be conducted at least 30 days prior to a scheduled compliance stack test event, while unscheduled maintenance activities may continue to be conducted as needed to meet operational requirements. In addition, requirements from paragraphs 3 and 5, above, shall be added to the air quality construction Permits for EP S40 and EP S40B; and

9. Any air quality construction permit modifications necessary to implement paragraph 7, above, shall comply with all state and federal applicable air quality requirements; and

10. POET shall consistently maintain and operate its equipment and control equipment at all times in a manner consistent with good practice for minimizing emissions; and

11. In the future, POET shall obtain construction permits timely, in accordance with the provisions of 567 IAC 22.1(1), which states no person shall construct, install, reconstruct or alter any equipment, control equipment without first obtaining a construction permit; and

12. POET shall operate in compliance with the provisions of its Title V Operating Permit; and

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13. Within 30 days of the date this order is signed by the director, POET shall pay a penalty of \$10,000.00.

VI. PENALTY

Pursuant to the provisions of Iowa Code section 455B.109 and 567 IAC chapter 10, which authorize the director to assess administrative penalties, a penalty of \$10,000.00 is assessed by this administrative consent order. The penalty must be paid within 30 days of the date this order is signed by the director. The administrative penalty is determined as follows:

Iowa Code section 455B.146 authorizes the assessment of civil penalties of up to \$10,000.00 per day of violation for the air quality violations involved in this matter. More serious criminal sanctions are also available pursuant to Iowa Code section 455B.146A.

Iowa Code section 455B.109 authorizes the Commission to establish by rule a schedule of civil penalties up to \$10,000.00 that may be assessed administratively. The Commission has adopted this schedule with procedures and criteria for assessment of penalties through 567 IAC chapter 10. Pursuant to this rule, DNR has determined that the most effective and efficient means of addressing the above-cited violations is the issuance of an administrative consent order with a penalty. The administrative penalty assessed by this order is determined as follows:

Economic Benefit – 567 IAC chapter 10 requires that DNR consider the costs saved or likely to be saved by noncompliance. 567 IAC 10.2(1) states that “where the violator received an economic benefit through the violation or by not taking timely compliance or corrective measures, DNR shall take enforcement action which includes penalties which at least offset the economic benefit.” 567 IAC 10.2(1) further states, “reasonable estimates of economic benefit should be made where clear data are not available.”

POET has gained an economic benefit from exceeding emission limits on EP S40 and EP S40B through delayed maintenance, delayed control equipment cleaning, and unpermitted process water reuse.

Delaying cleaning and maintenance has allowed POET to realize cost savings from not replacing parts on control equipment and not cleaning out control equipment. The equipment costs have been delayed and labor hours needed to perform the maintenance were avoided. POET installed unpermitted equipment to allow unrestricted use of process water in the scrubber and likely caused fouling and plugging of the fermentation scrubbers. POET Iowa Falls has realized cost

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savings by saving water while reducing scrubber control efficiency and causing excess emissions at the facility.

The actual amount of cost savings due to this practice is not known to the DNR but it is likely POET Biorefining profited at least \$4,000 from avoiding a shutdown of the process from December 6 through 9, 2021, delayed maintenance and cleaning on EP S40 and EP S40B, and unpermitted installation and operation of equipment to perform process water reuse.

For the reasons stated above, \$4,000.00 is assessed for this factor.

Gravity of the Violation – One of the factors to be considered in determining the gravity of a violation is the amount of penalty authorized by the Iowa Code for that type of violation. As indicated above, substantial civil penalties are authorized by statute. Despite the high penalties authorized, DNR has decided to handle the violations administratively at this time, as the most equitable and efficient means of resolving the matter.

Actual harm to the environment and public health likely occurred due to the amount of pollutants that were emitted above the emission limits set forth in construction permits for EP S40 and EP S40B. POET has reported emissions in excess of the permitted emission limits for Methanol, Acetaldehyde, Acrolein, and VOC. The VOC exceedances were reported by POET to be double the combined permitted emission limit of EP S40 and S40B. These pollutants are known to cause adverse health effects.

Furthermore, Acetaldehyde, Acrolein, and Methanol are designated as HAPs. HAPS are known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental effects. The gravity of the violation is higher when excess HAP emissions occur.

For the reasons stated above, \$3,000.00 is assessed for this factor.

Culpability – POET facility in Iowa Falls has a history of delaying, postponing, and cancelling compliance stack tests on EP S40 and EP S40B, when preliminary emissions test data demonstrates an emission limit exceedance. The facility has now been issued NOVs for this practice in 2016, 2017, 2021, and 2022.

These stack test delays, postponements, and cancellations block DNR's ability to determine if emission points at POET are continuously operating in compliance with the permitted limits. POET continues to employ a practice of conducting preliminary emissions testing to determine emission levels prior to completing compliance stack testing. Additionally, POET's refusal to conduct scheduled compliance tests when the preliminary emissions testing data is unfavorable has prevented DNR from obtaining compliance stack test results to document the

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emission levels. For these reasons POET's practice of delaying, postponing, or cancelling of scheduled compliance test dates threatens the integrity of the DNR's air program. Further, as stated above, POET has failed to timely obtain an air quality construction permit prior to installing or operating the process water reuse equipment.

Due to past excess emission events and documented emission limits violations, DNR has required DNR-approved operations and maintenance (O&M) plans for the EP S40 and S40B air pollution control equipment. Failure to maintain the EP S40 and EP S40B control equipment to a point that emission limit violations are more than double the permitted VOC emission limit demonstrates negligence on the facility's behalf.

Due to the nature of the violations, \$3,000.00 is assessed for this factor.

VII. WAIVER OF APPEAL RIGHTS

This administrative consent order is entered into knowingly and with the consent of POET. For that reason, POET waives its right to appeal this order or any part thereof.

VIII. NONCOMPLIANCE

Failure to comply with this administrative consent order, including failure to timely pay any penalty, may result in the imposition of further administrative penalties or referral to the attorney general to obtain injunctive relief and civil penalties pursuant to Iowa Code section 455B.146. Compliance with Section "V. Order" of this administrative consent order constitutes full satisfaction of all requirements pertaining to the specific violations described in Section "IV. Conclusions of Law" of this administrative consent order.

Kayla Lyon, Director
Iowa Department of Natural Resources



POET, Iowa Falls, LLC

Dated this 8th day of
MAY, 2023.

DNR Air Quality Bureau; Field Office 2; Anne Preziosi; VII.A.1, VII.A.2.

