# IOWA DEPARTMENT OF NATURAL RESOURCES

## ADMINISTRATIVE CONSENT ORDER

IN THE MATTER OF: SOUTHWEST IOWA RENEWABLE ENERGY, LLC		ADMINISTRATIVE CONSENT ORDER NO. 2022-AQ- <sub>18</sub>
To:	Southwest Iowa Renewable Energy, LLC c/o Michael Jerke, President and CEO 10868 – 189 <sup>th</sup> Street Council Bluffs, Iowa 51503	Southwest Iowa Renewable Energy, LLC c/o Ann Reis, Registered Agent 10868 – 189 <sup>th</sup> Street Council Bluffs, Iowa 51503
	Southwest Iowa Renewable Energy, LLC c/o Brett Schulte, Lab/Environmental Compliance Manager 10868 – 189 <sup>th</sup> Street Council Bluffs, Iowa 51503	

## I. SUMMARY

This administrative consent order is entered into between the Iowa Department of Natural Resources (DNR) and Southwest Iowa Renewable Energy, LLC (SIRE) 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

#### Payment of penalty to:

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

## **Relating to legal requirements:**

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

# II. JURISDICTION

This administrative consent order is issued pursuant to the provisions of lowa 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 lowa 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

SIRE neither admits nor denies the Statement of Facts.

1. SIRE is a dry-mill grain processing facility located in Council Bluffs, lowa, that produces nearly 130 million gallons of ethanol per year. It also produces over 365,000 tons of Dried Distillers' Grain (DDGs) annually and has the ability to produce Wet Distiller Grains (WDGs). SIRE can produce approximately 120,000 lbs per day of corn oil. The facility consumes approximately 44.3 million bushels of corn feedstock annually.

2. SIRE has violated the following air quality construction permit conditions:

# Construction Permit No. 06-A-571-P7, DDGS Dryer and Distillation Process, EP S10

Condition 1a, *Prevention of Significant Deterioration Emission Limits*; Condition 1b, *Emission Limits*; Condition 11, *Excess Emissions*; and Condition 12, *Notification, Reporting, and Recordkeeping* were violated.

- Condition 1a establishes Prevention of Significant Deterioration (PSD) VOC emission limits of 8.39 lb/hr and 10 ppmv or 98% reduction for VOC on the DDGS Dryer and Distillation Process [EP S10].
  - According to the compliance stack test report received November 17, 2021, for Compliance stack testing conducted October 21, 2021, the VOC results were 15.78 lb/hr, 18.9 ppmv, and 91.8% reduction.
  - According to the compliance stack test report received February 8, 2022, for compliance stack testing conducted December 17, 2021, the VOC results were 15.61 lb/hr, 29.32 ppmv, and 85.3% reduction.
- Condition 1b establishes emission limits of 8.39 lb/hr for VOC, 0.12 lb/hr for Formaldehyde, and 0.44 lb/hr for Acrolein on the DDGS Dryer and Distillation Process [EP S10].
  - According to the compliance stack test report received November 17, 2021, for compliance stack testing conducted October 21,

2021, the VOC result was 15.78 lb/hr, the Formaldehyde result was 0.13 lb/hr, and the Acrolein result was 0.77 lb/hr.

- According to the compliance stack test report received February 8, 2022, for compliance stack testing conducted December 17, 2021, the VOC results were 15.61 lb/hr, and the Acrolein result was 1.495 lb/hr.
- Conditions 11 and 12 require the reporting of excess emissions and contain notification requirements.
  - Preliminary emission test results on EP S10 from the June 15, 2017, compliance stack test event indicated that the EP S10 was exceeding permitted emission limits. SIRE delayed the compliance stack testing until preliminary emission test data indicated the source was emitting below permitted limits and compliance stack testing was then conducted. An onsite DNR stack test observer discovered the same stack test firm was onsite the previous week, on June 9, 2017, and preliminary emission test results were reported to be over permitted emission limits. Excess emissions for the June 9, 2017, preliminary emission test event and the June 15, 2017, compliance test event were required to be reported when discovered by DNR stack test observer on June 15, 2017. Excess emissions were not reported within the required 8-hour time frame for the June 9, 2017, preliminary emission test resulting in excess emissions. This failure to report excess emissions also is a violation of the excess emission reporting rules contained in 567 IAC 24.1.
  - The compliance stack test report was received on February 8, 2022, which was more than 7 weeks after completing the EP S10 compliance stack test on December 17, 2021. This is a violation of Permit Condition 12(B)(5) per 567 IAC 25.1(7), which states that "a written compliance demonstration report for each compliance testing event, whether successful or not, postmarked no later than six (6) weeks after the completion of the test period."

# Construction Permit No. 06-A-577-P5, Fermentation Process, EP S40

Condition 10, *Emission Limits*; and Condition 10b, *Emission Limits Best Available Control Technology*, were violated.

- Condition 10 establishes emission limits of 0.68 lb/hr for Acetaldehyde and
  - 0.17 lb/hr for Acrolein on the Fermentation Process EP S40.
    - According to the compliance stack test report received September 14, 2021, for compliance stack testing conducted August 4, 2021, the Acetaldehyde result was 0.87 lb/hr and the Acrolein result was 0.22 lb/hr.

- Condition 10b establishes a VOC emission limit of 12.6 lb/hr for VOC on the fermentation process EP S40.
  - According to the compliance stack test report received September 14, 2021, for compliance stack testing conducted August 4, 2021, the VOC result was 13.23 lb/hr.

## Construction Permit No. 08-A-476-P3, Natural Gas Boiler #1, EP S12A

Condition 6, *Continuous Emission Monitoring*; and New Source Performance Standards (NSPS) 40 CFR 60, Subpart Db, were violated.

- Condition 6, *Continuous Emission Monitoring*; and NSPS Subpart Db require continuous monitoring of the boiler for NOx.
  - A June 30, 2020 Notice of Violation (NOV) states that during the 3<sup>rd</sup> Quarter 2019, the Boiler #1 CEMs system was unavailable for over 7% of the source operating time for the quarter. Condition 6 requires facility to continuously monitor NOx emissions discharged to atmosphere per NSPS. The permit states EP 12A is subject to 40 CFR 60 Subpart Db and 567 IAC 23.1"ccc".

## Construction Permit No. 08-A-477-P3, Natural Gas Boiler #2, EP S12B

Condition 6, *Continuous Emission Monitoring*; and New Source Performance Standards (NSPS) 40 CFR 60, Subpart Db, were violated.

- Condition 6 and NSPS Subpart Db require continuous monitoring of the boiler for NOx.
  - A June 30, 2020, NOV states that during the 3<sup>rd</sup> Quarter 2019, the Boiler #2 CEMs system was unavailable for over 13% of the source operating time for the quarter. Condition 6 requires facility to continuously monitor NOx emissions discharged to atmosphere per NSPS. The permit states EP 12B is subject to 40 CFR 60 Subpart Db and 567 IAC 23.1 "ccc".

3. Title V Permit No. 14-TV-014R1 was issued to SIRE on October 28, 2019, and expires on October 28, 2024. The above-stated construction permit violations also constitute violations of the Title V permit.

4. SIRE has failed to timely report excess emissions, as required by the provisions of 567 IAC chapter 24.

## Chronology

 Preliminary emissions testing conducted by a stack testing company hired by SIRE on June 9, 2017, indicated that SIRE had exceeded permitted emission limits. On June 15, 2017, SIRE reported excess emissions to DNR Field Office 4 (FO4) that violations of Air Quality Construction Permit No. 06-A-571-P7 for Emission Point (EP) S10 had occurred.

- DNR visited the site and observed preliminary emission results indicating that EP S10 emissions were exceeding permitted emission limits, and compliance stack testing had been delayed until preliminary emission test results showed compliance. The Regenerative Thermal Oxidizers (RTO), air pollution control equipment associated with EP S10, had been dismantled earlier in the week for repairs. The DNR stack test observer who visited the site was informed that the preliminary emissions testing conducted by the same stack test company the previous week had indicated an unreported exceedance of emission limits. SIRE was required to report excess emissions to FO4 for both the preliminary emission test event and compliance stack test event. SIRE reported excess emissions for both events on June 15, 2017.
- On May 4, 2018, SIRE submitted a test protocol scheduling a compliance stack test on EP S10 and EP S40 to be conducted June 5 through 7, 2018. SIRE did not complete the compliance stack testing as scheduled and contacted the Iowa DNR on June 8, 2018, to reschedule the compliance stack testing.
- On June 14, 2018, SIRE submitted a test protocol scheduling compliance stack testing on EP S10 and EP S40 for July 24 through 27, 2018.
- On July 24 through 26, 2018, passing compliance stack tests were conducted on EP S40 and EP S10.
- On April 3, 2019, SIRE requested to reduce compliance stack testing frequency on EP S10. DNR denied the request due to excess emission issues pertaining to the June 2017, preliminary emission test and compliance stack test events.
- On June 8, 2020, SIRE submitted a test protocol scheduling compliance stack testing on EP S10 and EP S40 for June 23 through 26, 2020.
- On June 24, 2020, SIRE notified DNR that the compliance stack testing scheduled for June 23 through 24, 2020, on EP S40 and S10 needed to be postponed due to difficulty reaching high production levels. SIRE reported a stack company was on site for preliminary emissions testing the week of June 24, 2020, and the previous week. A test protocol was submitted to reschedule the compliance stack tests for July 28 through 29, 2020.
- On June 30, 2020, DNR issued a Notice of Violation letter (NOV) to SIRE for excess downtime on the CEMs system associated with EP 12A (Boiler #1 -Construction Permit 08-A-476-P3) and EP 12B (Boiler #2 - Construction Permit 08-A-476-P3).

- On July 30, 2020, SIRE reported a fire had occurred in EP S10 (RTO). At that time, compliance stack testing was cancelled due to preliminary emission test results that showed the source was exceeding permitted limits. Excess emissions were reported to FO4 and EP S10 compliance stack testing was not completed as scheduled. A passing compliance stack test was conducted on EP S40 as scheduled.
- On August 7, 2020, SIRE submitted a test protocol, scheduling a compliance stack test on EP S10 for August 18, 2020.
- On August 18, 2020, SIRE reported excess emissions to FO 4 for EP S10. SIRE started compliance stack testing again and EP S10 was still out of compliance. Acetaldehyde emissions were over the permitted emission limit. SIRE delayed the compliance stack testing one day to clean out the control equipment.
- On August 19, 2020, SIRE completed compliance testing on EP S10. The compliance stack testing demonstrated compliance with permitted emission limits.
- On May 3, 2021, SIRE submitted a test protocol to schedule compliance stack testing on EP S10 and S40 for June 15 through 17, 2021.
- On June 11, 2021, SIRE notified DNR for June 15 through 17, 2021, compliance testing will not be conducted due to low production capabilities.
- On June 21, 2021, SIRE reported excess emissions to FO 4 for EP S40.
- On July 6, 2021, SIRE submitted a test protocol rescheduling a compliance test on EP S40 for August 4, 2020. DNR inquired why compliance stack testing on EP S10 was not rescheduled for this compliance test event. SIRE informed DNR that production was low on EP S10 due to demand for DDGS.
- On August 4, 2021, SIRE conducted compliance stack testing on EP S40. The compliance stack test results showed that EP S40 was in violation of VOC, Acetaldehyde and Acrolein permitted emission limits. DNR issued an October 4, 2021 NOV for these permit violations.
- On August 27, 2021, SIRE conducted compliance stack testing on EP S40, and the compliance stack testing demonstrated compliance with the permitted emission limits.
- In September 2021, SIRE rescheduled the June 2021 compliance stack testing for EP S10 to occur on October 21, 2021.

- On October 21, 2021, SIRE completed compliance stack testing on EP S10. The compliance stack test results showed EP S10 in violation of the VOC, Formaldehyde, and Acrolein permitted emission limits.
- On November 29, 2021, SIRE scheduled compliance stack testing on EP S10 for December 17, 2021. The test protocol was received by DNR on December 5, 2021.
- On December 17, 2021, SIRE reported to DNR that the compliance stack testing start time was being delayed on EP S10 due to production issues.
- On December 20, 2021, DNR asked SIRE if compliance stack testing was completed on EPS10, and SIRE informed DNR that compliance stack testing was completed but preliminary compliance stack test results indicated the source continued to exceed permitted emission limits.
- On February 8, 2022, DNR received a compliance stack test report for December 17, 2021, compliance stack test. The compliance stack test report was received more than 7 weeks after completing the compliance stack test, in violation of the permit reporting deadline and 567 IAC 25.1(7)(a). VOC and Acrolein compliance stack test results were not within the permitted limits. EP S10 continues to remain noncompliant with the EP S10 permitted limits.
- Prior to the violations addressed above, SIRE was issued the following Notices of Violations (NOVs): 1) An NOV was issued for failure to timely report excess emissions on July 30, 2010; 2) NOVs were issued for CEMS downtime on February 9, 2011; December 12, 2016; and February 23, 2017; 3) NOVs were issued for violations demonstrated through compliance stack testing on September 27, 2011; March 11, 2013; July 2, 2013; February 4, 2015; July 25, 2016; and August 24, 2016.

# IV. CONCLUSIONS OF LAW

SIRE neither admits nor denies the 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 22.3(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, SIRE has failed to comply with emission limits contained in air quality construction permits, as stated above.

4. 567 IAC 23.1, Emission Standards, states that the federal standards of performance for new stationary sources (new source performance standards) shall be applicable as specified in subrule 23.1(2). 567 IAC 23.1(2)"ccc" adopts by reference 40 Code of Federal Regulations Part 60, Subpart Db, *Industrial-commercial-institutional steam generating units* (Subpart Db). Sire has violated Subpart Db, as stated above.

5. SIRE has failed to timely report stack testing results, in violation of 567 IAC 25.1(7)(a), as stated above.

6. Title V Permit No. 14-TV-014R1 was issued to SIRE on October 28, 2019, and expires on October 28, 2024. The above-stated construction permit violations also constitute violations of the Title V permit.

7. As stated above, SIRE has failed to timely report excess emissions, as required by the provisions of 567 IAC chapter 24.

# V. ORDER

THEREFORE, DNR orders and SIRE agrees to the following:

1. Within 30 days of the date this administrative consent order is signed by the Director, SIRE shall submit for DNR approval a compliance plan and schedule detailing how SIRE will achieve and maintain compliance with all construction permit conditions contained in Construction Permit No. 06-A-571-P7; and

2. Within 60 days of the date this administrative consent order is signed by the Director, SIRE shall submit construction permit applications to DNR to amend the permits for EP S10 and EP S40 to add DNR-approved preventive maintenance plans and additional monitoring that may be needed to ensure compliance with the emissions limits for EP S10 and EP S40; and

3. Within 60 days of the date this administrative consent order is signed by the Director, SIRE shall conduct compliance stack testing for VOC and HAP (Acetaldehyde, acrolein, formaldehyde, and methanol shall be tested for specifically) on EP S10. If compliance with all permitted VOC and HAP is not demonstrated by the required compliance stack testing, SIRE shall conduct additional compliance stack testing for VOC and HAP on a quarterly basis until a test demonstrates compliance with all VOC and HAP emission limits; and

4. Following a compliance stack test that successfully demonstrates compliance with the EP S10 emission limits, SIRE shall then conduct a compliance stack test twice a year for VOC and HAP on EP S10 with one compliance stack test to be conducted in June, July, or August. Compliance stack tests shall be conducted at least 120 days between compliance stack tests, until preliminary emission test data and compliance stack test data demonstrates compliance with emission limits for three consecutive test events;

5. For future stack testing of EP S40 and EP S10, in addition to the required compliance stack test report, SIRE shall submit to DNR all preliminary VOC and HAP raw emissions data collected prior to the scheduled compliance stack test event. In addition to the raw emissions data, SIRE shall submit an hourly summary. An hourly summary shall consist of the preliminary VOC and HAP emissions data for each emission limit contained in the relevant permit, beginning with the start of the first full clock hour after the start of collecting emission data and ending the last full clock hour prior to starting the compliance test. (If FTIR (Fourier Transform Infrared) is brought online at 7:17am and Compliance test begins at 1:27pm the preliminary VOC and HAP hourly data summary would begin at 8am and end at 1pm. SIRE must provide the DNR with this data even if the compliance stack test is not completed as scheduled;

6. The parties agree that an amended compliance schedule may be submitted for DNR approval prior to the compliance plan deadline. With any proposal for an amended compliance plan schedule, SIRE shall provide evidence of supply chain issues that can be demonstrated by purchase orders, proposals, email exchanges, or other information requested by DNR;

7. Within 30 days of the date this administrative consent order is signed by the Director, SIRE shall pay a penalty of \$10,000.00.

# VI. PENALTY

SIRE neither admits nor denies the statements in the Penalty provision.

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:

lowa 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.

lowa 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." SIRE has gained an economic benefit from exceeding emission limits on EP S40 and EP S10. Delayed maintenance appears to be the main cause of emission limit violations. Delaying maintenance has allowed SIRE to realize significant 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.

SIRE has continued to produce Dried Distillers Grains (DDGS) for sale while violating emission limits on EP S10. Without the operation of the DDGS Dryers associated with EP S10, SIRE could not produce DDGS. The actual amount of DDGS produced during this period of noncompliance and the amount of profit on the DDGS is not known to DNR, but it is likely SIRE profited at least \$4,000 from the sale of DDGS produced during the ongoing noncompliance on EP S10.

For these reasons, \$4,000.00 is assessed for economic benefit.

<u>Gravity of the Violation</u> – 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 may have occurred due to the amount of pollutants that were and are being emitted above the emission limits set forth in construction permits for EP S10 & EP S40. SIRE has violated emission limits for Formaldehyde, Acetaldehyde, Acrolein, and VOC with many of the violations currently ongoing for EP S10. These pollutants are known to cause adverse health effects.

Furthermore, Acetaldehyde, Acrolein, and Formaldehyde are designated as Hazardous Air Pollutants (HAPs). HAPS are 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 are occurring.

SIRE's failure to comply in a timely manner has forced the DNR to spend additional time and resources in an effort to assist the facility in attempting to comply. Thus, these violations threaten the integrity of the DNR's air program. SIRE was out of compliance with permitted emission limits on EP S40 from August 4, 2021, to August 27, 2021. EP S10 exceeded permitted limits on October 21, 2021, and continues to be noncompliant with permitted limits.

For these reasons, \$3,000.00 is assessed for gravity.

<u>Culpability</u> – SIRE has previously exceeded permitted emission limits and of other air quality violations, including a violation of 40 CFR Part 60, Subpart Db. SIRE was aware of excess emissions on EP S10 in June 2017 and failed to provide an excess emissions report as required pursuant to the provisions of 567 IAC 24.1. During the June 2017 compliance stack test event, it was reported to the DNR on site stack test observer that SIRE was aware of emission limit exceedances the previous week when the same stack test company was on site to collect preliminary emissions data. SIRE continues to employ a practice of bringing a stack test firm on site to conduct preliminary emissions testing allowing SIRE to determine emission levels several days prior to completing compliance stack testing.

SIRE delayed, postponed, and cancelled compliance stack tests in 2017, 2018, 2020, and 2021. Recently, both EP S40 and EP S10 were scheduled to be compliance stack tested in June 2021. SIRE delayed the June 2021 scheduled compliance stack testing on both sources; the subsequent compliance stack tests were conducted in August and October 2021. When SIRE completed compliance stack testing on EP S40 and S10 in 2021 the results demonstrated both sources were exceeding the permitted emission limits. These compliance stack test delays, postponements, and cancellations block DNR's ability to determine if emission points at SIRE are continuously operating in compliance with the permitted emission limits. SIRE has completed compliance stack testing immediately after repairs and cleanouts have been conducted so passing compliance stack test results are not representative of ongoing operations at the facility. For these reasons SIRE's frequent delaying of scheduled compliance test dates and start times threatens the integrity of the DNR's air program.

On several occasions SIRE has cited production issues as the reason for not completing compliance stack testing as scheduled with the Iowa DNR. Failure to maintain the facility to a point that production rates have been affected on several occasions demonstrates negligence on SIRE's behalf.

SIRE submitted a compliance stack test report for the December 17, 2021, compliance stack test conducted on EP S10 after the reporting deadline. The compliance stack test results indicated violations of the VOC and Acrolein emission

limits. Failure to timely submit the December 17, 2021, compliance stack test report has further delayed the DNR's ability to identify and address the ongoing compliance issues.

For these reasons, \$3,000.00 is assessed for culpability.

## VII. WAIVER OF APPEAL RIGHTS

This administrative consent order is entered into knowingly and with the consent of SIRE. For that reason, SIRE 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

Mike Jerke, CEO Southwest Iowa Renewable Energy, LLC Dated this \_\_\_\_\_ day of \_\_\_\_\_, 2022.

DNR Air Quality Bureau; Field Office 4; Anne Preziosi: VII.A.1, VII.A.2.