

IOWA DEPARTMENT OF NATURAL RESOURCES

ADMINISTRATIVE CONSENT ORDER

IN THE MATTER OF: QUAD COUNTY CORN PROCESSORS COOPERATIVE	ADMINISTRATIVE CONSENT ORDER NO. 2020-AQ-03
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To: Quad County Corn Processors Cooperative
Asif Malik, Chief Operating Officer
6059 159th Street
Galva, Iowa 51020

Quad County Corn Processors Cooperative
Delayne Johnson, Registered Agent
100 East 3rd Street
Galva, Iowa 51020

I. SUMMARY

This administrative consent order is entered into between the Iowa Department of Natural Resources (DNR) and Quad County Corn Processors Cooperative (Quad County) 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: 515-725-9526

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: 515-725-9551

Payment of penalty to:

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

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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

1. Quad County is an ethanol production facility located in Galva, Iowa, that employs approximately 40 people and has a capacity to produce 35 million gallons of ethanol per year. In addition to ethanol, Quad County produces 1.75 million gallons of distillers corn oil and 87,500 tons high protein livestock feed. Some of the air emission sources at this facility include natural gas boilers, fermentation processes, distillation process, flare, cooling tower, dryers, storage tanks, grain receiving, and load-outs.

2. Since 2017, Quad County has had numerous air quality violations, including:

- Operating without permits
- Violating construction permit conditions, including
 - Violating permitted emission limits
 - Violating compliance demonstration and stack testing requirements, including failure to timely conduct stack testing
 - Violating operating requirements and associated monitoring and recordkeeping requirements
- Excess emissions
- Failing to operate equipment in a manner designed to minimize emissions

3. On September 9, 2019, Quad County, Pinnacle Engineering and Iowa DNR staff held a conference call to discuss how to address compliance, permitting, and excess emission issues.

Operating Without Permits

4. Quad County has operated, and continues to operate, without required construction permits. The following air quality construction permits were issued on May 3, 2017, as part of Construction Permit Project No. 17-020.

Emission Point	Description	Construction Permit No.
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EP 6	Truck Dump Pit #3	Construction Permit No. 12-A-277-S1
EP 9	Outdoor Grain Pile	Construction Permit No. 01-A-085-S3
EP 19	Ethanol Loadout	Construction Permit No. 04-A-530-S4
EP F4	Wetcake Storage	Construction Permit No. 05-A-455-S1
EP 21	Fermentation Process	Construction Permit No. 07-A-345-S6
EP 23	Grain Storage Bin	Construction Permit No. 06-A-755-S4
EP 5	Truck Dump pit #1 & #2	Construction Permit No. 12-A-276-S1
EP 28	DDGS Loadout	Construction Permit No. 12-A-278-S1

5. All of these permits have become void, although the emission points are still in use. Condition 10 of each of these construction permits provided that the permit would become void if the construction or implementation of the proposed project, as it affected the emission point permitted therein, was not initiated within eighteen (18) months after the permit issuance date. Condition 10 of each of these permits also stated that the owner or operator could continue to operate under the previous permit only until the permitted changes occurred or until the permit became void.

6. The construction or implementation of the proposed project was not timely initiated, and the permits became void on November 3, 2018, leaving these eight emission points with no permits since that time. DNR submitted a Letter of Inquiry dated July 22, 2019, requesting information about whether the changes permitted by Project No. 17-020 occurred. Quad County responded in an August 12, 2019, email and in person on August 21, 2019, stating that the project had not timely proceeded. Therefore, these eight emission points are unpermitted. On September 4, 2019, DNR issued an NOV for operating EP 9, EP 19, EP F4, EP 23, EP 21, EP 5, EP 6, and EP 28 without the required construction permits.

7. Also, an April 20, 2018, Letter of Non-compliance (LNC) was issued by DNR for use of an unpaved haul road prior to receiving permits.

8. Further, Quad County is operating an unpermitted bypass stack for equipment permitted in Further, Quad County is operating an unpermitted bypass stack for equipment permitted in Construction Permit No. 01-A-084-S4 to vent through EP 16 (DDGS Dryer). A November 4, 2019, NOV was issued for failure to maintain equipment and operating without a permit. Emissions are being

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released uncontrolled from an unpermitted bypass stack and a door on the roof is releasing emissions from equipment associated with EP 16.

9. On October 3, 2019, Quad County submitted construction permit applications for unpermitted emissions points at the facility. Current Construction Permit Project No. 19-150 includes the following Emission Points: EP 5, EP 6, EP 9, EP 16, EP 19, EP F4, EP 21, EP 23, and EP 28.

Violating Permitted Emission Limits

10. Quad County has violated numerous permitted emission limits. As stated below, many of these violations have been documented during stack testing.

11. Quad County has violated permitted emission limits contained in Condition 1 of Construction Permit No. 01-A-084-S4 (DDGS Dryer, EP 16). Condition 1 establishes emission limits of 2.57 lbs/hr for NO_x, 0.20 lb/hr for Acetaldehyde, 0.10 lb/hr for Acrolein, 0.10 lb/hr for Formaldehyde, 0.35 lb/hr for Methanol, 1.39 lb/hr for Total HAP and 3.50 lbs/hr for VOC.

- According to the stack test report received February 1, 2018, for stack testing conducted December 14, 2017, the NO_x value found was 3.41 lbs/hr. Requested data provided by Quad County in July 2018 showed VOC results were 3.81 lb/hr.
- According to the stack test report received January 30, 2019, for testing conducted December 13, 2018, the value found was 4.19 lbs/hr for NO_x.
- Preliminary test results from the June 24-28, 2019, stack testing indicated that the source was exceeding limits for NO_x, Methanol, Formaldehyde, VOC, and Total HAP. Scheduled compliance testing was cancelled. According to the provisions of 567 IAC 21.5, the preliminary test results are evidence that a violations of the emission limits occurred.
- According to the stack test report received October 8, 2019, for stack testing conducted August 23, 2019, the value found was 11.03 lb/hr for VOC, 0.62 lb/hr for Acetaldehyde, 1.56 lb/hr for Acrolein, 1.44 lb/hr for Formaldehyde, 3.69 lb/hr for Total HAP, and 4.85 lb/hr for NO_x.

12. Quad County has violated permitted emission limits contained in Condition 1 of Construction Permit No. 07-A-345-S6 (Fermentation Process, EP 21). Condition 1 establishes emission limits of 0.80 lb/hr for acetaldehyde, 1.10 lb/hr for Total HAP and 6.0 lb/hr for VOC for the fermentation process EP 21.

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- According to the stack test report received August 12, 2019, for testing conducted June 26, 2019, the Acetaldehyde value found was 1.88 lb/hr, the total HAP value found was 1.91 lb/hr, and the total VOC was found to be 9.93 lb/hr.
- According to the stack test report received October 8, 2019, for stack testing conducted August 21, 2019, the value found was 11.03 lb/hr for VOC.

13. Quad County has violated permitted emission limits contained in Condition 10 of Construction Permit No. 01-A-069-S5 (Distillation System, EP 1). Condition 10 establishes emission limit of 1.25 lb/hr for VOC for the Distillation System EP 1.

- According to the stack test report received August 12, 2019, for testing conducted June 25, 2019. The VOC was found to be 1.28 lb/hr.

14. Quad County has violated permitted emission limits contained in Condition 10 of Construction Permit No. 13-A-189-S1 (Stillage Fermentation Process, EP 30). Condition 10 establishes emission limit of 1.0 lb/hr for VOC on the Stillage Fermentation Process EP 30.

- According to the stack test report received August 12, 2019, for testing conducted June 26, 2019, the VOC was found to be 8.04 lb/hr.

Violations of Compliance Demonstration and Stack Testing Requirements

15. Quad County has violated compliance demonstration and stack testing requirements contained in Condition 2 of Construction Permit 01-A-084-S4 (DDGS Dryer, EP 16).

- Stack testing for PM, PM10, NO_x and Opacity was not completed as required by September 8, 2017. Stack testing was completed December 14, 2017, and December 2018.
- VOC and HAP stack testing was required to be completed by August 31, 2017. Testing was conducted August 23, 2019.

16. Quad County has violated compliance demonstration and stack testing requirements contained in Condition 2 of Construction Permit 07-A-345-S6 (Fermentation Process, EP 21).

- Testing for VOC and HAPs was not completed by August 31, 2017, as required. Testing was conducted June 26, 2019.

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17. Quad County has violated compliance demonstration and stack testing requirements contained in Condition 12 of Construction Permit 01-A-069-S5 (Distillation System, EP 1).

- Testing for VOC and HAPs was not completed as required by August 31, 2017. Testing was conducted June 25, 2019.

18. Quad County has violated compliance demonstration and stack testing requirements contained in Condition 12 of Construction Permit 13-A-189-S1 (Stillage Fermentation Process, EP 30).

- Testing for VOC and HAPs was not completed as required by August 31, 2017. Testing was conducted June 26, 2019.

19. Following is a summary of the course of events concerning stack testing for EP 1, EP16, EP 21, & EP 30 that occurred during the period December 2017 through December 2019:

- a. On December 14, 2017, stack testing was completed for EP 1, EP16, EP 21, & EP 30. On February 1, 2018, DNR received a partial stack test report for the December 14, 2017 stack test event.
- b. A February 13, 2018, email received from Pinnacle Engineering, on behalf of Quad County, confirmed additional VOC and HAP data requested by the DNR to complete the review of the December 14, 2017, stack test report.
- c. A March 22, 2018, NOV was issued for EP16 NOx violation as a result of the December 14, 2017, stack testing results. The NOx stack test results for EP 16 were found to be 3.41 lb/hr, while the NOx emissions limit was 2.57 lb/hr. Stack testing was required by the EP 16 construction permit to have been conducted in June, July, or August of 2017 to demonstrate compliance under worst case emissions scenario. EP 1, 16, 21, and 30 also were found to be in violation due to not completing VOC and HAP stack testing by August 31, 2017, as required by the construction permits. Also, EP 16 was found to be in violation for not completing the initial testing for PM, PM10, and NOx by September 8, 2017, as required by the construction permit for EP 16. On May 29, 2018, the NOV was reissued because Quad County reported to DNR that the March 22, 2018, NOV had not been received by Quad County.
- d. On June 11, 2018, a DNR email was sent to Quad County, again requesting additional emissions data to complete review of December 2017 stack testing.

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- e. On June 15, 2018, DNR received a Compliance Plan from Quad County, as required by the reissued May 29, 2018, NOV. Quad County requested approval to complete compliance testing by August 31, 2018.
- f. DNR sent a June 27, 2018, response letter to Quad County, agreeing to the August 31, 2018, stack test deadline proposed by Quad County. This letter also reiterated DNR's request for additional data to complete the report review for the stack testing that had occurred on December 14, 2017.
- g. On July 2, 2018, Quad County and DNR participated in a conference call during which Quad County requested that DNR accept the December 14, 2017, stack testing event to fulfill the testing requirements contained in the construction permits for EP 1, EP 16, EP 21, and EP 30. During this conference call, DNR reaffirmed what was stated in the reissued May 29, 2018, NOV. DNR explained that the December 2017 stack testing did not meet the permit requirements. Stack testing was required to be conducted in June, July, or August to demonstrate compliance under worst case emissions scenario.
- h. On July 13, 2018, Quad County submitted a stack test notification for required stack testing to be completed August 14 through 16, 2018, for EP 1, EP 16, EP 21, and EP 30. However, on July 20, 2018, Quad County emailed DNR to report that the August 14 through 16, 2018, stack testing would be postponed due to a blockage of the CO₂ scrubber requiring that the plant be taken offline.
- i. On July 26, 2018, Quad County provided the requested additional data for the December 14, 2017, test report. The additional data indicated an exceedance of the VOC limit for EP 16.
- j. On July 27, 2018, Quad County submitted a stack test notification to reschedule required EP 16 stack testing for September 27, 2019. Since EP 1, EP 21, and EP 30 were reported to be untestable by the end of August, Quad County was required by DNR to conduct the stack testing between June 1 and 30, 2019.
- k. On September 25, 2018, Quad County informed DNR by email that malfunctions at the plant had caused the scheduled compliance test on EP 16 to be postponed. Testing for PM, PM₁₀, Opacity, and NO_x was rescheduled for December 13 and 14, 2018. VOC and HAP stack testing for EP 16 was required to be completed between June 1 and 30, 2019.

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- I. On December 13, 2018, stack testing was conducted on EP 16 for PM, PM10, Opacity and NOx. On January 20, 2019, DNR received the stack test report for the testing conducted December 13, 2018.

- m. On February 28, 2019, DNR issued an NOV for NOx exceeding the permitted limits during the December 13, 2018, stack testing for EP 16. The December 13, 2018, stack testing results for NOx were 4.19 lb/hr with a 2.57 lb/hr limit. PM/PM10 results were found to be 4.70 lb/hr, which was 94 percent of the 5.0 lb/hr permitted limit, while testing was not conducted at maximum capacity of the source, as required. Therefore, the PM/PM10 test results were not acceptable for demonstrating compliance with permitted limits. The NOV required that Quad County submit a Compliance Plan to DNR.

- n. On April 1, 2019, Quad County submitted a Compliance Plan for EP16, as required by the February 28, 2019, NOV. The Compliance Plan addressed three items, as described below. On April 16, 2019, DNR issued a response to Quad County's April 1, 2019, Compliance Plan. On April 30, 2019, DNR and Quad County held a conference call to discuss NOV, permit application options, and timing.
 - NOx emission limit exceedance - DNR accepted a plan to submit permit applications, but requested a date by which the applications would be received.
 - Testing had not been completed at maximum capacity, as required by permit 01-A-084-S4, Condition 2. DNR accepted plan to re-evaluate PM emissions during the required June 2019 stack testing event.
 - Air flow being significantly higher than the permitted value – Quad County indicated that it would submit a permit application following the June 2019 stack test event. The DNR requested Quad County submit a permit application by May 3, 2019.

- o. On May 6, 2019, Quad County submitted a construction permit application to modify the emission limits for NOx and PM/PM10 on EP 16. This permit application is currently pending as part of Permit Project No 19-150.

- p. On May 24, 2019, Quad County submitted to DNR a stack test notification for EP 1, 16, 21, and 30. Testing was scheduled for June 25 through 28, 2019.

- q. On June 25 and 26, 2019, stack testing was conducted for EP 1, 21, and 30. DNR stack test observer Mark Fields was onsite for testing, and all three sources demonstrated results exceeding the permitted limits. During the test event, Quad County attempted to delay the testing due to initial data or test data indicating permit limit exceedances. The DNR stack test

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observer had to request that Quad County start or continue testing for all three units. Prior to leaving the test site on June 26, 2019, Quad County, Pinnacle Engineering, and Montrose Environmental personnel were directed by the DNR stack test observer to conduct the EP 16 testing as scheduled on June 27, 2019.

- r. On June 27, 2019, Quad County left a phone message with DNR to report mechanical issues with EP 16, requiring the stack test to be delayed until June 28, 2019.
- s. On June 28, 2019, Quad County emailed Mr. Fields to report the cancellation of the required testing for EP 16 due to process malfunctions
- t. On July 2, 2019, Mr. Fields of DNR contacted Quad County to discuss circumstances of the June 27, 2019, stack testing cancellation for EP 16. DNR requested that preliminary emissions data collected on EP 16 be submitted for review.
- u. On July 23, 2019, DNR received a stack test protocol for stack testing scheduled for August 21 and 22, 2019, for EP 16, EP 21, & EP 30.
- v. On July 31, 2019, Quad County provided to DNR the requested preliminary emissions data for EP 16 from the June 24 through 28, 2019, stack test event. The emissions data indicated that EP 16 was exceeding the permitted emission limits for NO_x, VOC, Total HAPs, Formaldehyde, and Methanol starting June 24, 2019, and continuing until the stack testing company left the site on June 28, 2019.
- w. On August 5, 2019, an NOV was issued to Quad County for ongoing excess emissions on EP 16 and for failure to report excess emissions as required. This was a result of preliminary emissions data submitted by Quad County for the June 24 through 28, 2019, stack test event.
- x. On August 12, 2019, the stack test report for testing conducted on EP 1, EP 21, and EP 30 from June 25 and 26, 2019, was received by DNR.
- y. On August 21, 2019, when Mr. Fields arrived on site for compliance testing, Quad County was in the process of changing test locations from the source scheduled to test (EP 21) to EP 30. When Quad County was questioned on why the change was needed, it was conveyed to the DNR representative that repairs were needed to EP 21 due to preliminary emissions data indicating a VOC permit limit exceedance. The DNR observer required testing on EP 21 to be conducted as scheduled. EP 30 testing was then conducted as scheduled. Quad County informed Mr. Fields that the EP 30 scrubber control equipment had been cleaned to

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remove blockages since the failed June 2019 stack test. DNR was informed that a dryer fire had occurred on August 19, 2019, and attempts were being made to resume production for EP 16. DNR also was informed at that time that no construction had begun on any permits issued in project 17-020.

- z. On August 22, 2019, Mr. Fields arrived on site for EP 16 stack testing observation. Upon arrival to Quad County, Mr. Fields observed a significant amount of emissions were being released, uncontrolled from duct work, a vent, and an explosion door, prior to the EP 16 RTO control device. Quad County was informed the stack test would not be acceptable for demonstrating compliance without all emissions being vented to control equipment. Preliminary results indicated the source was exceeding emission limits for VOC, Formaldehyde, Acetaldehyde, and Total HAP. Testing was delayed one day to allow plant to repair emission bypasses.
- aa. On August 23, 2019, DNR stack test observer Alex Randall observed stack testing conducted on EP 16. Preliminary results indicated exceedances for VOC, Total HAP, Acetaldehyde, Acrolein, and Formaldehyde. Mr. Randall observed while on site that emissions were still being vented uncontrolled.
- bb. On September 4, 2019, an NOV was issued for emission limit violations on EP 1, EP 21, and EP 30 for the testing conducted June 25 and 26, 2019. Quad County requested and was issued construction permits with VOC and HAP limits to keep the facility below the threshold for Title V applicability. However, results from the EP 21 stack test showed that the facility could be exceeding Title V thresholds.
- cc. Since no construction had begun on any permits issued in project 17-020, the permits issued for that project had expired in November 2018. One of the expired permits was for EP 21.
- dd. On October 25, 2019, an NOV was issued to Quad County for stack testing completed August 21-23, 2019. Emission results demonstrated a violation of the synthetic minor VOC limit for EP 21. Emission results demonstrated violations of permitted limits for VOC, Acetaldehyde, Acrolein, Formaldehyde, Total HAP, and NOx on EP 16. Emission limit violations are considered ongoing.
- ee. On December 2, 2019, Quad County submitted a compliance plan to DNR in response to the October 25, 2019 NOV. The plan identified blockages, channeling, and fouling of control equipment used to control emissions on EP 16, EP 21, and EP 30.

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Violations of Operating Requirements and Associated Monitoring and Recordkeeping

20. On August 10, 2018, Amber Wolf of DNR Field Office 3 conducted a full compliance evaluation of the Quad County facility.

21. Quad County has violated the operating requirements with associated monitoring and recordkeeping requirements contained in Condition 5 of Construction Permit No. 01-A-084-S4 (DDGS Dryer, EP 16).

- DNR conducted an inspection of the facility on August 10, 2018, and discovered that the EP 16 RTO was operating at 1600°F. The permit requires that the temperature of the RTO shall be within 50 °F of the average temperature during the most recent stack test showing compliance with the emission limits. The last stack test demonstrating compliance with the currently permitted emission limits was conducted on December 18, 2014. This testing was conducted with the RTO operating at a temperature of 1750°F.

22. Quad County has violated the operating conditions with associated monitoring and recordkeeping requirements contained in Construction Permit No. 07-345-S6 (Fermentation Process, EP 21).

- During the August 10, 2018, inspection, it was discovered that additive rates are not being recorded daily, as required.

23. Quad County has violated the operating conditions with associated monitoring and recordkeeping requirements contained in Construction Permit No. 01-A-069-S5 (Distillation System, EP 1).

- During the August 10, 2018, inspection, it was discovered that the distillation scrubber does not have the ability to continuously monitor the pressure drop, as required. Also, additive rates are not being recorded daily, as required.

24. Quad County has violated the operating conditions with associated monitoring and recordkeeping requirements contained in Construction Permit No. 13-A-189-S1 (Stillage Fermenting Process, EP 30).

- During the August 10, 2018, inspection, it was discovered that the Stillage Fermentation scrubber does not have the ability to continuously monitor the pressure drop, as required. Also, additive rates are not being recorded daily, as required.

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25. Quad County has violated the operating conditions with associated monitoring and recordkeeping requirements contained in Construction Permit No. 12-A-277-S1 (Truck Dump, Pit #3, EP 6).

- o During the August 10, 2018, inspection, it was discovered that the facility was not recording trucks/hr, as required.

26. Quad County has violated the operating conditions with associated monitoring and recordkeeping requirements contained in Construction Permit No. 12-A-279 (Denaturant Storage Tank, EP 29).

- o During the August 10, 2018, inspection, it was discovered that the facility was not recording maximum vapor pressures, as required.

27. On September 25, 2018, DNR Field Office 3 issued an NOV for record keeping and operating requirement violations for EP 1, 6, 16, 21, 29, and 30. Many of the violations had previously been identified by DNR in an April 8, 2013, LNC and had not been corrected by the facility.

Excess Emissions Violations

28. Between January 1, 2018, and January 22, 2020, Quad County reported excess emissions on twenty-two occasions, as stated in the table below.

Excess Emissions Reports

Date	Description
January 8, 2018	Excess Emission report - CO2 plant next door went down, water from the plant feeds the scrubber. Scrubber was operating 4.8 gallons below required levels.
January 26, 2018	Excess Emission report - No water to scrubber.
February 13, 2018	Excess Emission Report - Line froze leaving CO2 valve open.
June 4, 2018	Excess Emission report - Heat exchanger was gummed up.
June 11, 2018	Excess Emission report - for CO2 scrubber being down.
June 25, 2018	Excess Emission report - PRV's on fermentation tanks are lifting and not properly seating.
August 20, 2018	Excess Emission report - a rain event caused water to get into electrical box causing power loss to half of the plant.
October 9, 2018	Excess Emission report – stopped flow to scrubber for valve repair.
November 6, 2018	Excess Emission report – small leak on stem valve to

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	mole sieve.
November 21, 2018	Excess Emission report – CO2 Scrubber shutdown.
May 13, 2019	Excess Emission report – Ammonium Bisulfite (chemical injection required to reduce emissions) was not running to the scrubber.
June 26, 2019	Excess Emission report – Microbial issue in fermentation scrubber and other unknown units.
July 31, 2019	Excess Emission report – scrubbers offline for maintenance, cleaned in place while offline.
August 5, 2019	Excess Emission report - planned outage for scrubbers to be cleaned in place.
August 6, 2019	Excess Emission report - scrubber taken offline for maintenance of fan bearing.
August 16, 2019	Excess Emission report – mechanical flush of CO2 Scrubber, went above permitted flow rate.
September 16, 2019	Excess Emission report – dryer running without going through RTO; and debris got into a wire connection in the VFD for the RTO and caused a communication error.
September 19, 2019	Excess Emission report – dryer ran without the RTO for under 30 minutes. Natural gas valve for burner was not working properly causing RTO to kick out.
October 21, 2019	Excess Emission report – Operators changed tank on CO2 Scrubber and failed to open valve resulting in 24 hour period without CO2 scrubber activation. Scrubber was operating for 82.5 hours without any additive.
November 7, 11 & 12, 2019	Excess Emission report – Two incidents - November 7, 2019; and November 11 and 12, 2019. Cause of both incidents was the heat exchangers for the water source to the CO2 Scrubber. Flushing was done to clean out blockage and restored flow to the CO2 scrubber. Excess emissions included VOC, HAP's, formaldehyde, acetaldehyde, acrolein, methanol, PM and PM10.
December 17, 2019	Excess Emission report – Operator discovered during a shift change the water flow to the scrubber was too low. It was discovered the alarm set point was set too low so no alarm occurred. The changes in the flow and alarm set points was blamed on human error.
January 22, 2020	Excess Emission report – Issues with molecular sieves caused evaporators to go down, which in turn caused a lack of water to condense. This water supplies the scrubbers, so there was no water flow to the fermentation

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	scrubber from 3:15 to 5:04 AM and no water flow to the thin stillage scrubber from 4-4:45 AM.
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29. On two other occasions, Quad County failed to report excess emissions. On August 5, 2019, a Notice of Violation letter (NOV) was issued to Quad County for ongoing excess emissions from EP 16 and for failing to report excess emissions as required. These excess emissions were reported to DNR along with a result of preliminary emissions data submitted by Quad County for a June 24 – 28, 2019, stack test event

Failure to Operate and Maintain Equipment in a Manner Designed to Minimize Emissions

30. Quad County has failed to operate and maintain equipment in a manner designed to minimize emissions, as required by Condition 8 of Construction Permit 01-A-084-S4 (DDGS Dryer, EP 16), and by 567 IAC 24.1(1)"a". Condition 8 establishes general requirements pertaining to construction and operation of the source.

31. DNR observed at the site on August 22, 2019, that emissions were being vented uncontrolled from duct work leading to EP 16 control equipment (an unpermitted bypass stack) and from a roof door. Quad County stated that a seal was bad on an emergency stack. A September 4, 2019, NOV was issued for failure to maintain equipment and for operating without a permit.

Past enforcement history

32. Quad County has a history of violating air quality requirements and other DNR requirements.

Date	Description
December 3, 2002	An NOV was issued for failure to timely obtain a construction permit for EU 17, a hammermill constructed in 2002.
August 11, 2003	An NOV was issued for wastewater parameter, delinquent stack testing, and delinquent NSPS VV testing.
December 7, 2004	An NOV was issued for stack test results that showed the facility as major for VOD, with emissions of the rotary dryer in excess of 167 lb/hr.

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July 15, 2005	Administrative Order No. 2005-AQ-13 was issued for failure to apply for PSD permits. The order assessed and the facility paid a \$10,000.00 penalty.
July 15, 2005	Administrative Order No. 2005-AQ-14 was issued for failure to timely apply for a Title V permit. The order assessed and the facility paid a \$10,000.00 penalty.
December 12, 2006	AN NOV was issued for violations evident following NOx testing on Boilers 1 and 2. On October 7, 2007, Administrative Order No. 2005-AQ-13 was amended to change the NOx limit.
November 8, 2007	An NOV was issued for violating Construction Permit No. 07-A-345 because the Fermentation CO2 scrubber was exceeding the 240 hours of "bypass" time allowed.
April 8, 2013	An LNC was issued for deviations founds during inspection, including recordkeeping and operating requirement violations that were not addressed and were later re-asserted in a September 256, 2018, NOV. The NOV also asserted that there was no pressure gauge on the wet scrubber for the distillation system, as required by Construction Permit No. 01-A-069-S3. The pressure drop cannot be recorded without the gauge. VOC emissions were not being calculated and recorded as required by Construction Permit No. 06-A-759-S1 for EP 27 (Syrup Tank). Quad County was instructed to create a separate log sheet to record the number of trucks dumping in Pit #1 and Pit #2 each day, including the date and time. The flare was required to be inspected according to manufacturer's specifications. TDS testing was required to be conducted (measuring similar parameters). The facility had deficient Subpart Kb recordkeeping for EP 29 (Denaturant Tank). Records of haul road sweeping were not being kept, and the number of trucks arriving was not being recorded.
March 24, 2015	An NOV was issued for stack testing violations for VOC and HAP on EP 1, EP 16, and EP 30 as a result of testing conducted on December 15 through 18, 2014.
July 14, 2015	AN NOV was issued for failure to control emissions and report excess emissions for operating without a baghouse.

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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. Pursuant to Iowa Code sections 455B.133 and 455B.134, 567 IAC 22.1(1) was adopted, which states, in relevant part, that “[u]nless 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....” Quad County has failed to timely obtain and maintain construction permits, as stated above.

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, Quad County has failed to comply with emission limits contained in air quality construction permits. Quad County has violated compliance demonstration and stack testing requirements. Quad County has violated operating requirements and associated recordkeeping requirements contained in permits.

5. Quad County has failed to timely report excess emissions, as required by numerous construction permits. Quad County also has failed to comply with the provisions of 567 IAC 24. 567 IAC 24 requires that an initial report of excess emissions shall occur within eight hours of, or at the start of the first working day following the onset of the incident. The rule also requires that a written report of excess emissions shall be submitted within seven days of the onset of the upset condition. Between January 1, 2018, and August 16, 2019, Quad County reported excess emissions on twenty-two occasions. On two other occasions, Quad County failed to report excess emissions.

6. 567 IAC 24.1(1)“a” requires that sources be operated and maintained in a manner to minimize emissions. Quad County has failed to operate and maintain equipment in a manner designed to minimize emissions, as required by Condition 8 of the construction permits for EP 16, EP 21, and EP 30, and by 567 IAC 24.1(1)“a”. 567 IAC 24.2(2) states:

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A maintenance plan will be required for equipment or control equipment where in the judgment of the director a continued pattern of excess emissions indicative of inadequate operation and maintenance is occurring. The maintenance plan shall include, but not be limited to, the following:

a. A complete preventive maintenance schedule, including identification of the persons responsible for inspecting, maintaining and repairing control equipment, a description of the items or conditions that will be inspected, the frequency of these inspections or repairs, and an identification of the replacement parts which will be maintained in inventory for quick replacement;

b. An identification of the equipment and air pollution control equipment operating variables that will be monitored in order to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring and surveillance procedures.

c. A contingency plan for minimizing the amount and duration of any excess emissions to the maximum extent possible during periods of such emissions.

V. ORDER

THEREFORE, DNR orders and Quad County agrees to the following:

1. Within 45 days of the date this order is signed by the director, Quad County shall submit for DNR review construction permit applications for all emission points operating without a construction permit and for which construction permit applications are not pending on the date this order is signed by the director, in compliance with 567 IAC 22.1(1); and

2. Within 90 days of the date this order is signed by the director, Quad County shall submit to DNR preventative maintenance plans meeting the requirements of 567 IAC 24.2(2) for all air emission control equipment at the facility, and specifically addressing blockages and consequent emission limit violations in connection with EP 16, EP 21 and EP 30; and

3. Within 120 days of the date this order is signed by the director, Quad County shall conduct, through an independent third-party auditor approved by DNR, a comprehensive environmental audit to determine compliance status of all air emitting sources at the facility. The auditor shall not be an employee or contractor of Quad County and shall not have more than a de minimus current or former financial interest in Quad County. Within 120 days of the date this order is signed by the director, Quad County shall provide a final audit report to DNR

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including any discovered violations, needed corrective actions, all auditor-recommended corrective actions, and a schedule for compliance; and

4. Within 30 days of the date this order is signed by the director, Quad County shall pay a penalty of \$9,000.00.

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 \$9,000.00 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 the 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.”

Quad County Corn Processors has gained an economic benefit from exceeding emission limits on several sources, apparently through delayed maintenance in many cases. Delaying maintenance has allowed Quad County to realize significant cost savings by not replacing control equipment, not maintaining duct work, and not cleaning out control equipment. Quad County also has gained an economic benefit by not installing monitoring equipment and not complying with recordkeeping requirements. Economic benefit has been realized by Quad County by delaying required testing for EP1, EP 16, EP 21, and EP 30.

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

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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, the 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 construction permit emission limits set forth in construction permits for EP 1, EP 16, EP 21, and EP 30. Emission limits for Formaldehyde, Acetaldehyde, Methanol, Acrolein, NO_x, VOC, and Total HAP have been violated with many of the violations currently ongoing. These pollutants are known to cause adverse health effects.

Furthermore, Acetaldehyde, Acrolein, Formaldehyde, and Methanol are designated as Hazardous Air Pollutants (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 are occurring.

The failure to conduct stack testing on EP 1, EP 16, EP 21, and EP 30 in June, July, or August as required by the construction permits threatens the integrity of the air permitting program. Testing in the summer time months represents worst case emissions scenario, which allows the DNR to determine if control equipment is functioning correctly and is appropriately sized to control the emission load under which the equipment is being operated. Quad County did not conduct the testing as required until at least 662 days after the required test due date of August 31, 2017. This has delayed the DNR's ability to determine if emission violations are occurring.

The integrity of the permitting program has also been threatened when Quad County failed to comply with its recordkeeping and operating requirements. DNR is unable to determine if the facility is meeting its permitted requirements when required operating and recordkeeping conditions are not being followed.

Quad County received Construction Permit No. 07-A-345-S6 on May 3, 2017. This permit required the CO₂ scrubber be replaced. As of September 3, 2019, the scrubber had not been replaced. Condition 10 of Construction Permit No. 07-A-345-S6 required that construction begin within 18 months or the construction permit would become void. Since construction did not timely begin, EP 21 is operating without a construction permit. EP 21 has violated emission limits during stack test events conducted on June 26 and August 21, 2019. Had the CO₂ scrubber been replaced as Construction Permit No. 07-A-345-S6 required, these violations may have been avoided.

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Quad County also allowed other construction permits to become void by failing to timely begin construction. Those emission points continue to operate, as well.

For these reasons \$3,000.00 should be assessed for this factor.

Culpability – Quad County has a history of exceeding permitted limits. Additionally, Quad County was aware of excess emissions on EP 16 as of June 24, 2019, and failed to provide an excess emissions report as required by 567 IAC 24.1. Quad County did not notify the DNR representative of the known excess emissions while onsite June 25 and 26, 2019. Quad County subsequently cancelled scheduled compliance testing without divulging emission limit exceedances. Emissions data was provided only upon request by DNR. Quad County knowingly operated EP 16 in violation of permitted limits and did not report emissions as required.

Quad County received a LNC on April 8, 2013, for recordkeeping and operating parameter violations. A NOV was issued September 25, 2018, for many of the same violations identified in the April 8, 2013, LNC. Quad County has shown that even when potential violations are identified by DNR, the issues are not addressed.

Quad County was exhausting uncontrolled emissions from EP 16 on August 22, 2019. Stack test failures on EP 21 and EP 30 were attributed to plugging of control equipment. Quad County has cancelled required testing on three separate occasions due to mechanical failure. Failing to ensure preventative maintenance plans are sufficient and failing to perform needed maintenance shows negligence.

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

VII. WAIVER OF APPEAL RIGHTS

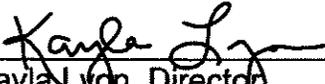
This administrative consent order is entered into knowingly and with the consent of Quad County. For that reason, Quad County waives its right to appeal this order or any part thereof.

VIII. NONCOMPLIANCE

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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

Dated this 15th day of
April, 2020.



Quad County Corn Processors Cooperative

Dated this 14 day of
April, 2020.

DNR Field Office 3; Anne Preziosi: VII.A.1, VII.A.2.