

IOWA DEPARTMENT OF NATURAL RESOURCES
ADMINISTRATIVE CONSENT ORDER

IN THE MATTER OF:	ADMINISTRATIVE CONSENT ORDER
GOLDEN GRAIN ENERGY, LLC	NO. 2015-AQ-06

TO: Golden Grain Energy, LLC
Chad Kuhlers, Chief Operations Officer
1822 43rd Street SW
Mason City, Iowa 50401

Golden Grain Energy, LLC
Christy Marchand, Registered Agent
1822 43rd St. S.W.
Mason City, IA 50401

I. SUMMARY

This administrative consent order is entered into between the Iowa Department of Natural Resources (DNR) and Golden Grain Energy, LLC (Golden Grain) 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 order should be directed to:

Relating to technical requirements:
Brian Hutchins
Iowa Department of Natural Resources
Air Quality Bureau
7900 Hickman Road, Suite 1
Windsor Heights, Iowa 50324
Phone: 515-725-9550

Relating to legal requirements:
Anne Preziosi, Attorney for the DNR
Iowa Department of Natural Resources
7900 Hickman Road, Suite 1
Windsor Heights, Iowa 50324
Phone: 515-281-6243

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

Description of Facility:

1. Golden Grain is an ethanol production facility located in Mason City, Iowa. Golden Grain employs approximately 48 people and has the capacity to produce 150 million gallons of ethanol per year. The facility began operation in 2004. In addition to ethanol, Golden Grain produces both wet and dry distillers grains as byproducts. Air emission sources at this facility include grain unloading, hammermills, fermenters, cooling towers, dryers, flares, and storage tanks.

Summary of Violations:

2. Golden Grain has violated the provisions of numerous air quality construction permits and its Title V operating permit by (1) exceeding permitted emission limits and failing to properly maintain required records, (2) failing to properly maintain equipment, (3) failing to continuously operate its Predictive Emissions Monitoring System, and (4) failure to continuously monitor thermal oxidizer temperature.

Description of Permits for EP S10a and EP S10b:

3. Golden Grain has exceeded permitted emission limits for Emission Points (EPs) S10a and S10b. Air Quality Construction Permit Nos. 03-A-600P-S4 (EP S10a) and 05-A-780-S2 (EP S10b) were issued to Golden Grain on May 2, 2012. These permits are for two thermal oxidizers associated with Golden Grain's Distillation equipment, DDGS Dryers, and Heat Recovery Boiler at its plant in Mason City. Condition 10a of these permits specifies that NOx emissions shall not exceed 0.04 lbs/MMBtu or 36.62 tons/year. Condition 10b of these permits specifies that acetaldehyde emissions shall not exceed 0.10 lb/hour or 9.4 tons/year. The tons/year limit is a plant wide limit.

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Stack Testing Failures and Adjustment Issues During Stack Testing for EP S10a and EP S10b:

4. In August 2012, stack testing showed that Golden Grain was violating its permitted acetaldehyde limits for EP S10a. On August 15, 2012, Golden Grain conducted stack testing on EP S10a and EP S10b for acetaldehyde. The stack test report, submitted to DNR on September 26, 2012, demonstrated that EP S10a was out of compliance with its permitted emission limit of 0.10 lbs/hr for acetaldehyde. The August 15, 2012, stack test demonstrated that Golden Grain was emitting 0.14 lbs/hr of acetaldehyde. On October 23, 2012, DNR issued a Notice of Violation letter (NOV) to Golden Grain stating that EP S10a was out of compliance with its permitted acetaldehyde emission limit.

5. In May 2013, Golden Grain experienced difficulties in stack testing for EP S10a and EP S10b, indicating that Golden Grain was failing to maintain its control equipment at all times in a manner consistent with good practice for minimizing emissions. Similar deficiencies had been observed by DNR while on site for emission testing conducted on EP S10b in November 2012.

6. On May 8, 2013, Golden Grain conducted stack testing on EP S10a for acetaldehyde. Prior to conducting the May 8, 2013, stack tests, adjustments to control equipment and processes took place over a period of several hours until lower emission rates were observed indicating that the facility would not exceed its emission limits.¹

7. The May 8, 2013, preliminary data observed by DNR prior to stack testing indicated that Golden Grain was out of compliance with its permitted emission limit for acetaldehyde for EP S10a prior to adjustment of process equipment and control equipment.

8. On May 9, 2013, Golden Grain attempted to conduct stack testing on EP S10b for acetaldehyde. Acetaldehyde emissions appeared to be exceeding permitted limits. Again, on May 9th, prior to the testing of EP S10b, adjustments occurred for an extended period of time. Since Golden Grain was unwilling to begin the stack test until preliminary results showed compliance with permitted limits, DNR personnel informed Golden Grain on May 9th that the facility would have to reschedule testing for EP S10b.

Failure to Maintain Process Equipment and Control Equipment for EP S10a and EP S10b:

¹ DNR received the May 8-9, 2013, stack test results on June 21, 2013. On July 26, 2013, DNR sent a letter to Golden Grain stating that the report received June 21, 2013, for the testing conducted May 8, 2013, demonstrated that S10a is in compliance with its permitted acetaldehyde limits. The May 8 testing was conducted following adjustments of process equipment and control equipment.

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9. Based on the issues observed by DNR during the May 8-9, 2013, testing, and similar issues observed on site by DNR during late 2012, DNR determined that Golden Grain would not have been able to show compliance with several of its permitted limits if adjustments to control equipment and processes were not completed immediately prior to conducting the stack tests. DNR issued a May 21, 2013, NOV to Golden Grain for failing to maintain its process equipment and control equipment at all times in a manner consistent with good practice for minimizing emissions. In the May 21, 2013, NOV, DNR required the facility to submit a compliance plan by June 21, 2013.²

10. On June 24, 2013, Golden Grain submitted a response to the May 21, 2013, NOV stating that corrective actions would be taken with respect to EPs S10a and S10b, including replacement of deficient boiler packing for EP S10b during the next planned shutdown in July 2013, to assist in meeting permitted NOx emission limits. The letter stated that EP S10b would then be retested. The letter also stated that if the test failed, then Golden Grain would submit a construction permit application requesting a higher permit limit.

11. Stack testing for EP S10b was rescheduled for September 17, 2013. However, the testing on that date did not occur. Stack testing did occur on January 21 and 22, 2014 and on August 27, 2014. NOx results from these stack tests could not be used to show compliance with the EP S10b applicable permitted NOx limits.³

Predictive Emission Monitoring System Evidence of Permit Violations:

12. Based on Predictive Emission Monitoring System data submitted to DNR by Golden Grain on May 13 and June 11, 2014, Golden Grain exceeded its NOx 0.04 lb/MMbtu permitted emission limits for EP S10b from March 15 through March 16, 2012; from March 21 through May 15, 2012; from October 12 through October 31, 2012; and from August 3 through November 12, 2013.

13. Based on data submitted to DNR by Golden Grain on May 13 and June 11, 2014, Golden Grain exceeded its 12-month rolling average NOx 36.62 ton/year permit limit for EP S10b for the years 2012 and 2013.

Failure to Maintain Process Equipment and Control Equipment for EP S40a, S40b, and S40c:

14. In May 2013, Golden Grain also experienced difficulties in stack testing for EPs S40a, S40b, and S40c, indicating that Golden Grain was failing to maintain its process equipment and control equipment at all times in a manner consistent with good

² Also, in the May 21, 2013, NOV, DNR reminded Golden Grain that EP S10b remained out of compliance with its NOx tons/yr limit.

³ The averaging period of the tests does not correlate with the permitted limits.

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practice for minimizing emissions. Air Quality Construction Permit Nos. 03-A-603P-S3 (EP S40a), 05-A-782P-S1 (EP 40b), 12-A-119 (EP S40c) were issued to Golden Grain on May 2, 2012, for its Fermentation Processes. Condition 10 of all three permits contained an acetaldehyde emission limit.

15. Golden Grain's May 2013, stack testing also included stack testing on EPs S40a, S40b and S40c for acetaldehyde. As with the emissions points discussed above, prior to conducting the May 7-8, 2013, stack tests, adjustments to control equipment and processes took place until lower emission rates were observed indicating that the facility would not exceed its emission limits.

16. Due to the delays and adjustments during the May 7 and 8 stack testing of EPs S40a, S40b, and S40c, these emission points also were included in the May 21, 2013, NOV to Golden Grain for failing to maintain its process equipment and control equipment at all times in a manner consistent with good practice for minimizing emissions. As stated above, in the May 21, 2013, NOV, DNR required the facility to submit a compliance plan by June 21, 2013.

17. Regarding EPs S40a, S40b and S40c, Golden Grain's June 24, 2013, response stated that Golden Grain would implement a new preventative maintenance schedule for EPs S40a, S40b and S40c and have them inspected and cleaned every three months.

18. DNR received the May 7-9, 2013, stack test results on June 21, 2013. On July 26, 2013, DNR sent a letter to Golden Grain stating that the report received June 21, 2013, for the testing conducted May 7-8, 2013, demonstrated that EPs S40a, S40b, S40c are in compliance with their permitted acetaldehyde limits. This testing was conducted following adjustments of process equipment and control equipment.

Failure to Maintain Records:

19. Golden Grain has failed to properly maintain records. DNR conducted an air quality inspection of the Golden Grain facility on May 29, 2013, and found that the 12-month rolling totals were not being maintained for the following parameters and permits: tons of DDGS produced, as required by Air Quality Construction Permit No. 03-A-605P-S2; hours of operation of the Fire Pump, as required by Air Quality Construction Permit No. 06-A-056P; hours of operation of the second Fire Pump, as required by Air Quality Construction Permit No. 07-A-1291; gallons of denaturant used, as required by Air Quality Construction Permit No. 03-A-611P-S2; hours of operation of the Rail Load out Flare, as required by Air Quality Construction Permit No. 08-A-235P-S1; and tons of fugitive VOC emissions for equipment leaks, as required by Air Quality Construction Permit No. 05-A-384P-S1. These records were required by Condition 15 of the named construction permits.

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Predictive Emission Monitoring System Downtime:

20. According to the 3rd and 4th quarter 2013 monitoring reports for EP S10a and EP S10b, Golden Grain has violated its Predictive Emissions Monitoring System requirements. Air Quality Construction Permit Nos. 03-A-600P-S4 (EP S10a) and 05-A-780-S2 (EP S10b) Conditions 12 and 16 require either a Continuous Emissions Monitoring or a Predictive Emissions Monitoring System for NOx. Golden Grain submitted a Predictive Emissions Monitoring System plan to DNR on April 19, 2005, and that plan was approved with modifications in an April 22, 2005, DNR letter to Golden Grain. DNR received the 3rd quarter report for 2013 on October 23, 2013. The report showed significant downtime of the Predictive Emissions Monitoring System for both EP S10a and EP S10b. The downtime reported for the quarter was 12.1% and 27.8% for EP S10a and EP S10b, respectively. In addition, Air Quality Construction Permit No. 03-A-600P-S4 (EP S10a) Condition 15 requires hourly records of the operating temperature of the thermal oxidizer. The temperature monitor for EP S10a was down 7.1% of the operating time for the quarter. DNR issued a December 31, 2013, NOV for the 3rd quarter violations. DNR received the 4th quarter report on February 3, 2014. The report showed downtime of the Predictive Emissions Monitoring System of 10.3% and 5.8% for EP S10a and EP S10b, respectively. In addition, Air Quality Construction Permit No. 03-A-600P-S4 (EP S10a) Condition 15 requires hourly records of the operating temperature of the thermal oxidizer. The thermal oxidizer temperature monitor for EP S10b was down 6.9% of the operating time for the quarter. DNR issued a February 11, 2014, NOV for the 4th quarter violations.

Title V Permit Violations:

21. Golden Grain has violated the provisions of its Title V Operating Permit. Title V Operating Permit 09-TV-002, issued to Golden Grain on March 10, 2009, for its Mason City, Iowa, plant, also contains the requirements stated in the construction permits issued to Golden Grain. Therefore, these construction permit violations also are violations of its Title V operating permit.

History of Past Violations:

22. Golden Grain has a history of past air quality violations. On March 9, 2012, DNR issued Administrative Consent Order 2012-AQ-18 to Golden Grain for exceeding emission limits contained in three air quality construction permits and its Title V operating permit. The three emission points involved in those violations were S10a, S10b, and S70b. The order instructed Golden Grain to pay a Supplemental Environmental Project amount of \$4,312.50 to the Cerro Gordo County Conservation Board and to pay a penalty of \$1,437.50 to DNR.

23. Golden Grain neither admits nor denies the "Statement of Facts" and "Conclusions of Law" contained in this Administrative Consent Order.

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IV. CONCLUSIONS OF LAW

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

2. 567 IAC 22.1(1) provides that 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 or permit pursuant to rule 567—22.8(455B), or permits required pursuant to rules 567—22.4(455B), 567—22.5(455B), 567—31.3(455B), and 567—33.3(455B) as required in this subrule. 567 IAC 22.3(3) provides that a construction permit may be issued subject to conditions which shall be specified in writing, and that such conditions may include emission limits, stack testing requirements, and recordkeeping requirements. As set forth in this order, Golden Grain has failed to comply with the requirements of its air quality construction permits by exceeding permitted emission limits, failed to conduct predictive emission monitoring as required by its permits, and failed to keep required records.

3. 567 IAC 24.2(1) requires that the owner or operator of any equipment or control equipment shall maintain and operate its equipment or control equipment at all times in a manner consistent with good practice for minimizing emissions. Golden Grain scheduled required stack testing for five emission points for May 7-9, 2013. However, prior to conducting the stack tests, adjustments to control equipment and processes took place until lower emission rates were observed that would indicate that the facility would not exceed its emission limits. These adjustments occurred for an extended period of time, prompting DNR to require that the testing for EP S10b be rescheduled. In addition, similar problems were observed by DNR while on site for emissions testing attempts conducted in November 2012. These practices indicate that Golden Grain is not maintaining and operating its process equipment and control equipment at all times in a manner consistent with good practice for minimizing emissions.

4. According to the provisions of 567 IAC 22.104, no source may operate after the time that it is required to submit a timely and complete application, except in compliance with a properly issued Title V operating permit. Golden Grain was issued Title V Operating Permit No. 09-TV-002 on March 9, 2009. As stated above, Golden Grain is in violation of the conditions of its Title V Operating Permit.

V. ORDER

THEREFORE, DNR orders and Golden Grain agrees to do the following:

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1. Golden Grain shall pay a penalty of \$10,000.00 to the DNR within 30 days of the date the Director signs this administrative consent order; and
2. Golden Grain shall comply with the provisions of its air quality construction permits and Title V operating permit in the future; and
3. Golden Grain shall maintain and operate its process equipment and control equipment at all times in a manner consistent with good practice for minimizing emissions; and
4. Within 90 days of the date of this order, Golden Grain shall create and submit to DNR Air Quality Bureau for approval a maintenance plan as described in 567 IAC 24.2(2), which shall include: (1) a written plan that tracks all applicable air quality requirements and deadlines to avoid future noncompliance, and (2) a specific written plan to ensure that EP S10a and EP S10b maintain compliance with permitted emission limits; and
5. To obtain more accurate data regarding nitrogen oxide (NOx) tons per year emission limits, within 45 days of the date of this order, Golden Grain shall create and submit to DNR Air Quality Bureau a written plan, subject to DNR approval, that includes the installation and operation of flow monitors for EP S10a and EP S10b in conjunction with either (a) the existing EP S10a and EP S10b Predictive Emissions Monitoring Systems ("PEMS") or (b) replacement of the PEMS with a Continuous Emissions Monitoring Systems, in compliance with the requirements of 40 CFR 60.48b(c), (d), (e), and (f). Regardless of whether option (a) or (b) is chosen, the plan shall include the installation and operation of flow monitors for EP S10a and EP S10b; and
6. Flow monitors for EP S10a and EP S10b shall be installed and operating as expeditiously as possible but no later than 180 days from the date of the DNR approval set out in paragraph 5 above; and
7. Within 135 days of the DNR approval set out in paragraph 5 above, Golden Grain shall submit (a) a permit applications for the inclusion of a flow monitors for EP S10a and EP S10b to DNR, and (b) any other necessary permit applications. Applications other than the applications for the addition of flow monitors shall include appropriate supporting documentation, including revised BACT analyses, revised modeling analyses, and revised additional impacts analyses. The requested emission limits must not be predicted to cause or contribute to any NAAQS exceedance. In accordance with 567 IAC 22.3(1)"a-d", the permit applications must request conditions adequate to meet all state and federal requirements.

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VI. PENALTY

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 an \$10,000.00 administrative penalty. The administrative penalty assessed by this administrative consent 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, the department shall take enforcement action which includes penalties which at least offset the economic benefit.” Golden Grain has failed to maintain its control equipment at all times in a manner consistent with good practice for minimizing emissions, resulting in permitted limit exceedences and delays in stack testing. In addition, Golden Grain has failed to maintain records and failed to comply with its permit provisions, as required. An estimated cost savings through avoided costs of at least \$2,500.00 has been realized by Golden Grain. Therefore, this amount is assessed for this factor.

Gravity of the Violation – Since the May 2012 issuance of the current permits for EP S10a and EP S10b, Golden Grain has been unable to show consistent compliance with its permitted limits; to maintain and operate its process equipment and control equipment, including its Predictive Emissions Monitoring Systems, at all times in a manner consistent with good practice for minimizing emissions; and to keep the required records. Golden Grain's consistent inability to comply with these requirements threatens the integrity of the DNR regulatory program. According to data submitted to DNR by Golden Grain on May 13 and June 11, 2014, Golden Grain has exceeded its NOx 0.04 lb/MMbtu permitted emission limit for long periods of time spanning from March 2012 through November 2013. Further, Golden Grain has failed to consistently show compliance with its acetaldehyde emission limits. Acetaldehyde is a toxic air pollutant, and the gravity of the violation is higher when a toxic pollutant is involved. For the reasons stated above, \$4,500.00 is assessed for this factor, with \$1,500.00 assessed for failure to comply with acetaldehyde emission limits, and \$3,000.00 assessed for failure to comply with the remainder of the violations cited in this paragraph.

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Culpability –Administrative Consent Order 2012-AQ-18, which included a penalty assessment, was issued to Golden Grain March 9, 2012, for similar violations, including exceeding the NOx lbs/hr emission limit for EP S10a and EP S10b and the acetaldehyde limit for EP S70b. However, Golden Grain has continued to violate its air quality construction permits and DNR's rules regarding air quality. For this reason \$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 Golden Grain. For that reason, Golden Grain 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 order constitutes full satisfaction of all requirements pertaining to the specific violations described in Section "IV. Conclusions of Law" of this order.



Chuck Gipp, DIRECTOR
Iowa Department of Natural Resources

Dated this 17th day of
June, 2015.



Golden Grain Energy, LLC

Dated this 10th day of
JUNE, 2015.

Facility No. 17-01-100; FO 2; Anne Preziosi; VII.A.2