217/782-2113

FEDERALLY ENFORCEABLE OPERATING PERMIT

PERMITTEE

Adkins Energy, LLC
Attn: Todd Block
4350 West Galena Road
P.O. Box 227
Lena, Illinois 61048

Application No.: 03060057
Applicant's Designation:
Subject: Ethanol Plant
Date Issued: October 25, 2004
Location: 4350 West Galena Road, Lena

I.D. No.: 177802AAA
Date Received: June 24, 2003

Expiration Date: See Condition 1.1(c)

Permit is hereby granted to the above-designated Permittee to OPERATE emission source(s) and/or air pollution control equipment consisting of a fuel ethanol plant with a nominal design capacity of 42.5 million gallons/year denatured ethanol, including the units listed in Attachment A and other ancillary operations, as described in the above-referenced application. This Permit is subject to the following conditions and the standard conditions attached hereto.

Section 1: Plant-Wide Conditions

1.1 Introduction

a. i. This federally enforceable state operating permit is issued to limit the emissions of air pollutants from the source to less than major source thresholds, e.g., 100 tons/year each of nitrogen oxides (NO_x), carbon monoxide (CO), volatile organic material (VOM) and particulate matter (PM). Prior to issuance, a draft of this permit underwent public notice and a public comment period.

ii. This permit establishes limitations on the operation of the plant and limitations on the emissions of individual emission units and operations, which its total limit the source's emissions to below major source thresholds. These limitations are accompanied by operations requirements and by requirements for testing, monitoring and recordkeeping to verify compliance with such limitations.

b. In addition to regulatory requirements of this permit, the issuance of this permit also addresses source-specific obligations placed on the Permittee to obtain an operating permit for all emission units and air pollution control equipment utilized during ethanol production. (Agreed Order for Interim Injunctive Relief, before the Circuit Court for the Fifteenth Judicial Circuit, Stephenson County, No. 03 CH 76.) The Agreed Order also places specific requirements on the existing units at the plant and the plant as a whole.

c. This permit will expire 180 days after the completion of the shakedown period for the feed drying system authorized by Construction Permit 03040053.

1.2 Plant-Wide Operating Limitations

a. The amount of grain processed at this plant shall not exceed 42,000 tons/month and 420,000 tons/year.

b. Ethanol production from the plant, determined as denatured ethanol shipped from the loading rack, shall not exceed 4.25 million gallons/month and 42.5 million gallons/year.

c. Annual natural gas usage by the plant shall not exceed 2529 million cubic feet.

d. Compliance with these annual limitations and other annual limitations of this permit shall be determined from a running total of 12 months of data, unless otherwise specified in the particular condition.

1.3 Plant-wide Emission Limitations

a. Emissions from the plant shall not exceed the limitations in Table I. For purposes of determining compliance with these limitations, the procedures in the unit-specific conditions of this permit shall be followed unless other credible evidence provides a more accurate estimate of emissions.

i. The limitations in Table I-A are applicable beginning in the month that feed dryer first resumes operation.

ii. The limitations in Table I-B are applicable beginning the first complete calendar month after this permit is issued until the month that a feed dryer next operates at the plant.

iii. During the first year (12 months) following effectiveness of emission limitations, emission units shall comply with pro-rated limits developed from Table I-A or I-B, as applicable. In particular, for the first month in which an annual limit is effective, an emission unit shall comply with a pro-rated limit that is 1/12 of the annual limit. At the end of the second month, the unit shall comply with a limit that is 2/12 of the annual limit, and so forth. Notwithstanding other provisions of this permit that allow emissions from certain units to be determined on an annual basis, during the first year the Permittee shall calculate and record monthly emissions from such units as needed to comply with this requirement.

c. i. This permit is issued based on the source not being a major source for Hazardous Air Pollutants (HAP), so that this source is not subject to the requirements of Section 112(g) of the Clean Air Act.

ii. If not otherwise specified for a particular emission unit, the emissions of HAPs, other than acetaldehyde, shall not exceed the following limits, which are expressed as a percentage of the VOM limitations:

Individual HAP: 10.0 percent of VOM limit
Aggregate HAPs: 15.0 percent of VOM limit.

Note: Refer to Tables I-A and I-B for limitations for acetaldehyde emissions.

d. The emission limitations in this permit supersede limitations established for the plant in Construction Permit 97070043.

1.4 Regulations of General Applicability

Emission units at this source are subject to the following regulations of general applicability:

a. No person shall cause or allow the emission of fugitive particulate matter from any process, including any material handling or storage activity, that is visible by an observer looking generally overhead at a point beyond the property line of the source unless the wind speed is greater than 25 miles per hour, pursuant to 35 IAC 212.301 and 212.314.

b. No person shall cause or allow the emission of smoke or other particulate matter with an opacity greater than 30 percent into the atmosphere from any emission unit, pursuant to 35 IAC 212.123(a), except as allowed by 35 IAC 212.123(b) or 212.124.

1.5 Good Air Pollution Control Practice

The Permittee shall operate and maintain the emission units at this plant, including associated air pollution control equipment, in a manner consistent with good air pollution control practice, as follows:

a. At all times, including periods of startup, shutdown, malfunction or breakdown, operate as practicable to minimize emissions.

b. Conduct routine inspection and perform appropriate maintenance and repairs to facilitate proper functioning of equipment and minimize or prevent malfunctions and breakdowns.

c. Install, calibrate and maintain required instrumentation according to the supplier’s specifications or as otherwise necessary to assure reliable operation of such devices.

1.6 Retention and Availability of Records

a. All records, including logs and procedures, required by this permit shall be retained by the Permittee at readily accessible location at the source for at least three years from the date of entry and shall be available for inspection by the Illinois EPA upon request. Any records retained in electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA request for records during the course of a source inspection. The Permittee shall provide copies of any required records requested by the Illinois EPA as soon as is practicable, considering the nature and extent of the requested records.

b. Upon notification from the Illinois EPA that it has received odor complaint(s) for the plant, the Permittee shall promptly submit copies of relevant records for the time period(s) of interest to the Illinois EPA, accompanied by such additional narrative explanation as the Permittee elects to provide. For this purpose, such information shall include the following data as the Permittee believes that such data is significant to disputing or understanding the alleged incident: meteorological data, data identifying deviations from proper operation of units, and data confirming proper operation of units. If the Permittee is notified of the complaint by the Illinois EPA within 72 hours of the incident, the Permittee shall submit an initial response by the Illinois EPA's next business day, which response may consist of a completed checklist for the period of the alleged incident. Otherwise material, including any further material, supplementing an initial response, shall be submitted within 15 calendar days of notification to the Permittee.

1.7 Plant-Wide Reporting

a. The Permittee shall submit Quarterly Compliance Reports as specified in the unit specific conditions of this permit and Condition 3.5(b).

b. i. The Permittee shall submit an Annual Emission Report in accordance with 35 IAC Part 254.

ii. With its Annual Emission Report the Permittee shall report:

A. The annual operating hours of the distillation process, fermentation process and the feed drying system, and the percentage of these operating hours, if any, that these units operated out of compliance.

B. Significant deficiencies in the condition of emission units and control systems as related to emissions identified during the detailed annual inspection of equipment.

c. i. The Permittee shall notify the Illinois EPA within 30 days of any deviation from the operating limitations in Condition 1.2 or the annual emission limitations set for the plant. Any such notification shall include the information specified in Condition 3.5.

ii. Not withstanding the above or provisions in the Unit Specific Conditions of this permit for reporting deviations, if deviation will occur from required maintenance, repair or other activity that can be scheduled in advance, the Permittee shall also notify the Illinois EPA prior to undertaking such activity, if it is feasible to do so. Such notification shall be submitted at least 5 days in advance unless the activity is scheduled less than 5 days in advance. Such notification shall be followed by such other notification or reporting as required for the deviations.

1.8 Submission of Reports

a. i. All notifications and reports required by this permit shall be sent to the Illinois EPA at the following address unless otherwise indicated:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Compliance Enforcement Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276

ii. A copy of each report or notification shall also be sent directly to the Illinois EPA's regional office at the following address:

Illinois Environmental Protection Agency
Division of Air Pollution Control
5415 North University
Peoria, Illinois 61614

iii. A copy of each report or notification shall also be posted on a Internet website maintained by the Permittee for access by the general public. For this purpose, the Permittee may edit such material to remove information that has been claimed as trade secret or confidential in the material submitted to the Illinois EPA.

b. When this permit requires immediate notification, such notification shall be provided by telephone and followed by facsimile or e-mail transmittal of a narrative report.

1.9 Operation of a Meteorological Monitoring Station

a. The Permittee shall continue to operate and maintain the following meteorological instruments in accordance with the supplier's written instructions.

i. Wind Speed and Direction

ii. Temperature

iii. Humidity

b. i. The meteorological instruments shall be connected to a computer logging system that is designed to record the following data:

A. Actual data, recorded at an interval that is not greater than 15 minutes.

B. Average data, on an hourly basis.

ii. This data shall be retained for at least two months from the date when it was recorded.

c. In the event of failure of the meteorological system or data recording system, the Permittee shall expeditiously take corrective action. If the outage lasts for longer than 7 days, the outage shall be considered a deviation and promptly reported to the Illinois EPA.

1.10 Other Requirements

a. i. This permit does not relieve the Permittee of the responsibility to comply with all Local, State and Federal Regulations which are part of the applicable Illinois State Implementation Plan, as well as all other applicable Federal, State and Local requirements.

ii. In particular, this permit does not excuse the Permittee from the obligation to undertake further actions at the source as may be needed to eliminate air pollution, including nuisance due to odors, such as raising the height of stacks, using alternative scrubbant materials, installing back-up control systems or altering process conditions in emission units. Such action may become necessary or desirable following completion of the odor assessment for the feed dryer required by the Agreed Order (Paragraph VIII.A.19).

b. i. This permit also does not relieve the Permittee of the responsibility to comply with applicable requirements of an Agreed Stay Order entered into with Neighbors for Good

Neighbors. (Neighbors for Good Neighbors, LLC, vs. Adkins Energy, LLC, Agreed Stay Order, United States District Court, Northern District of Illinois, Western Division, Case No. 03C50194)

ii. A. In particular, pursuant to this Agreed Stay Order, by September 15, 2004, the Permittee is to demonstrate to the satisfaction of the Illinois EPA and Neighbors for Good Neighbors, technical experts that this facility is not a major source, as defined in Section 501(2) of the Clean Air Act, and is in material compliance with permits issued to it by the Illinois EPA (Agreed Stay Order, Paragraph 6)

B. The issuance of this permit does not excuse the Permittee from taking actions, collecting information, and making submittals to the Illinois EPA and Neighbors for Good Neighbor's technical experts as are fitting for the Permittee to make these demonstrations.

Section 2: Unit Specific Conditions

2.1 Boilers

2.1.1 Description

Two natural gas fired boilers generate the steam used to supply the heat for the ethanol production process.

2.1.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Equipment	Description	Emission Control Equipment
EU013	Boiler 1	Natural Gas Fired Boiler (60 Million Btu/Hr)	Low-NO_x burners
EU014	Boiler 2	Natural Gas Fired Boiler (60 Million Btu/Hr)	Low-NO_x burners

2.1.3 Applicability Provisions and Applicable Regulations

a. The boilers are subject to the federal Standards of Performance (NSPS) for Small Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60, Subpart Dc and related provisions in Subpart A. The Illinois EPA is administering NSPS in Illinois on behalf of the United States EPA under a delegation agreement.

b. The emission of carbon monoxide (CO) from each boiler shall not exceed 200 ppm, corrected to 50 percent excess air [35 IAC 216.121].

c. The emission of smoke or other particulate matter from each boiler shall not have an opacity greater than 30 percent, except as allowed by 35 IAC 212.123(b) and 212.124. Compliance with this limit shall be determined by 6-minute averages of opacity readings in accordance with USEPA Reference Method 9. [35 IAC 212.109 and 212.123(a)]

d. At all times, the Permittee shall maintain and operate the boilers, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions, pursuant to 40 CFR 60.11(d).

2.1.4 Non-Applicability of Regulations of Concern

The sulfur dioxide, particulate matter and opacity standards of the NSPS, 40 CFR 60 Subpart Dc, are not applicable to the affected boilers because the boilers only fire natural gas.

2.1.5 Operational and Production Limits and Work Practices

a. Natural gas shall be the only fuel fired in the affected boilers.

b. The rated firing rate of each boiler shall not exceed 60 million Btu/hour.

c. Each boiler shall be equipped, operated, and maintained with low NO_x combustors for natural gas firing.

2.1.6 Emission Limitations

a. The low-NO_x burners shall be designed and operated to emit no more than 0.05 lb NO_x per million Btu heat input.

Note: The boilers are required to have low NO_x burners by the Agreed Order (Paragraph VIII.A.1(b)(iii)).

b. Emissions of the affected boilers shall not exceed the following limits. These limits are based on information in the application including the maximum firing rate (60 million Btu/hr), the emission factors based on the manufacturer's test data for NO_x and CO emission and standard emission factor for other pollutants and continuous operation:

	Emission Rate Each Boiler		Combined Emission
Pollutant	Lb/hr	Tons/yr	Tons/yr
NO_x	2.92	12.78	25.57
CO	1.75	7.67	15.35
VOM	0.17	0.73	1.46
PM	0.84	3.68	7.36
SO_2	0.04	0.16	0.32

2.1.7 Testing Requirements

Upon written request by the Illinois EPA, The Permittee shall perform emission tests as requested for an affected boiler as specified in Condition 3.2.

2.1.8 Monitoring Requirements

None

2.1.9 Recordkeeping Requirements

The Permittee shall maintain records of the following items:

a. Fuel usage for the boilers, ft^3/day and ft^3/yr;

b. Monthly and annual NO_x, CO, PM, SO_2, and VOM emissions from the each boiler based on fuel consumption and other operating data, and appropriate emission factors, with supporting calculations.

2.1.10 Reporting Requirements

a. The Permittee shall fulfill all applicable notification and reporting requirements of the NSPS for the boilers.

b. The Permittee shall promptly notify the Illinois EPA of any deviations from the requirements of this permit for the affected boilers as follows. These reports shall include the information specified in Condition 3.5.

i. Excess opacity that lasts more than 24 minutes (four 6-minute averaging periods) shall be immediately reported to the Illinois EPA.

ii. The deviations addressed above and all other deviations shall be reported in the quarterly compliance report.

2.1.11 Compliance Procedures

Compliance with the emission limits of Condition 2.1.6 shall be based on the records required by Condition 2.1.9 and appropriate emissions factors developed from testing of the boilers (NO_x and CO) or standard emission factors.

2.2 Gas Turbine

2.2.1 Description

One gas turbine with heat recovery steam generator supplies both electricity and steam for the ethanol process. Emissions of NO_x from the turbine are controlled by the low-NO_x burners installed in the turbine. The heat recovery steam generator is not equipped with supplemental burner.

2.2.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Equipment	Description	Emission Control Equipment
EU015	Turbine	Gas Turbine (56.5 Million Btu/Hr)	Low-NO_x Burners

2.2.3 Applicability Provisions and Applicable Regulations

a. The turbine is subject to the NSPS for Stationary Gas Turbines, 40 CFR 60, Subpart GG, and related provisions in Subpart A.

   i. Emissions from the turbine shall comply with the NSPS standard for NO_x at 40 CFR 60.332(a)(2).

   ii. The turbine shall comply with the NSPS standard for SO_2 at 40 CFR 60.333(b), i.e., the sulfur content of the fuel burned in the turbine shall not contain more than 0.8 percent by weight sulfur.

b. The emission of smoke or other particulate matter from turbine shall not have an opacity greater than 30 percent, except as allowed by 35 IAC 212.123(b) and 212.124. Compliance with this limit shall be determined by 6-minute averages of opacity readings in accordance with USEPA Reference Method 9. [35 IAC 212.109 and 212.123(a)]

c. At all times, the Permittee shall maintain and operate the turbine, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions, pursuant to 40 CFR 60.11(d).

2.2.4 Non-Applicability of Regulations of Concern

None

2.2.5 Operational and Production Limits and Work Practices

a. Natural gas shall be the only fuel fired in the turbine.

b. The rated firing rate of the turbine at 50 °F shall not exceed 90.7 million Btu/hour.

2.2.6 Emission Limitations

a. Emissions from the turbine shall not exceed the following limits. These limits are based on the maximum firing rate (90.7 million Btu/hour), the emission factors based on the stack test data for NO_x and CO emission and standard emission factor for other pollutants and continuous operation:

Pollutant	Emission Factor (Lb/Million ft^3)	Emission Rate	
		(Lb/Hr)	(Tons/Yr)
NO_x	104.42	5.90	25.84
CO	121.42	6.86	30.05
VOM	----	0.20	0.88
PM	----	0.60	2.62
SO_2	----	0.18	0.79

2.2.7 Testing Requirements

Upon written request by the Illinois EPA, The Permittee shall perform emission tests as requested for an emission unit as specified in Condition 3.2.

2.2.8 Monitoring Requirements

The Permittee shall monitor sulfur content of the fuel being fired in the gas turbine in accordance with 40 CFR 60.334(b) and 60.335(b) or the provisions of a custom or alternative monitoring program approved by USEPA pursuant to 40 CFR 60.13(i). The analysis may be performed by the Permittee, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency [40 CFR 60.335(c)]

2.2.9 Recordkeeping Requirements

The Permittee shall maintain records of the following items:

a. Fuel usage for the gas turbine, ft^3/mo and ft^3/yr;

b. The sulfur content of the fuel used in the gas turbine as measured pursuant to Condition 2.2.8.

c. An operating log and an inspection and maintenance log for the turbine. This addition to other information, this log shall identify any physical changes made to the burners in the turbine and operational changes in the computerized combustion program.

d. Monthly and annual NO_x, CO, PM, SO_2, and VOM emissions from the gas turbine based on fuel consumption and other operating data, and appropriate emission factors, with supporting calculations.

2.2.10 Reporting Requirements

a. The Permittee shall fulfill all applicable notification and reporting requirements of the NSPS for the turbine.

b. The Permittee shall promptly notify the Illinois EPA of any deviations from the requirements of this permit for the turbine as follows. These reports shall include the information specified in Condition 3.5.

i. Excess opacity that lasts more than 24 minutes (four 6-minute averaging periods) shall be immediately reported to the Illinois EPA.

ii. The deviations addressed above and all other deviations shall be reported in the quarterly compliance report.

2.2.11 Compliance Procedures

Compliance with the emission limits of Condition 2.2.6 shall be based on the records required by Condition 2.2.9 and appropriate emissions factors developed from testing of the turbine (NO_x and CO) or standard emission factors.

2.3 Grain Receiving, Handling, Milling, and Processing

2.3.1 Description

The plant includes a grain elevator at which corn is received by truck or rail car and stored in bins prior to processing. The initial processing of the corn occurs in the elevator, when the corn is screened or cleaned to remove cobs and other foreign matter. The cleaned grain is then transferred to a "day bin", ground in a hammermill and conveyed to the slurry tank for enzymatic processing.

2.3.2 List of Emission Units and Pollution Control Equipment

Corn Receiving	Grain receiving dump pit	----
Grain Handling and Processing	Grain Dump Pit Discharge Drag Conveyor	Spot Filter Baghouse (FX-150)
	Grain Cleaning Scalper	Spot Filter Baghouse (FX-153)
	Scalper Discharge Bucket Elevator	Spot Filter Baghouse (FX-157)
	Grind Bin Feed Bucket Elevator	Spot Filter Baghouse (FX-147)
Grain Milling	Hammermill Discharge Screw Conveyors	Spot Filter Baghouse (FX-195)
	Hammermill Discharge Screw Conveyors	Spot Filter Baghouse (FX-190)

2.3.3 Applicability Provisions and Applicable Regulations

a. The "affected operations" for the purpose of these unit-specific conditions, are the grain handling operation described in Conditions 2.3.1 and 2.3.2.

b. The affected operations are subject to 35 IAC 212, Subpart S: Agriculture. The Permittee shall comply with all applicable requirements of Subpart S. [See Conditions 2.3.5(a) and (b)]

2.3.4 Non-Applicability of Regulations of Concern

a. The affected operations are not subject to 35 IAC 212.321, because the affected operations are subject to 35 IAC 212, Subpart S [35 IAC 212.461(a)].

b. This permit is issued based on the affected operations not being subject to 40 CFR 60, Subpart DD: Standards of Performance for Grain Elevators, because the source's total permanent grain storage capacity will not exceed the applicability threshold of the NSPS (threshold of 1,000,000 bushels permanent storage capacity).

2.3.5 Operational Limits and Control Requirements

a. Housekeeping Practices. The Permittee shall implement and use the following housekeeping practices for affected operation, pursuant to 35 IAC 212.461(b):

i. Air pollution control devices shall be checked daily and cleaned as necessary to insure proper operation.

ii. Cleaning and Maintenance.

A. Floors shall be kept swept and cleaned from boot pit to cupola floor. Roof or bin decks and other exposed flat surfaces shall be kept clean of grain and dust that would tend to rot or become airborne.

B. Cleaning shall be handled in such a manner as not to permit dust to escape to the atmosphere.

C. The yard and surrounding open area, including but not limited to ditches and curbs, shall be cleaned to prevent the accumulation of rotting grain.

iii. Dump Pit.

A. Aspiration equipment shall be maintained and operated.

B. Dust control devices shall be maintained and operated.

iv. Property. The yard and driveway of any source shall be asphalted, oiled or equivalently treated to control dust.

v. Housekeeping Check List. A written Housekeeping Check List for the grain handling operation, developed and maintained by the Permittee, shall be completed by the manager of the operation on at least a monthly basis and copies maintained on the premises for inspection by the Illinois EPA.

b. Individual grain handling operations shall comply with applicable requirements of 35 IAC 212.462 (see below), if a certified investigation performed by the Illinois EPA determines that such operation is causing or tending to cause air pollution. [Section 9 of the Environmental Protection Act]

i. Cleaning and Separating Operations. [35 IAC 212.462(a)]

A. Particulate matter generated during cleaning and separating operations shall be captured to the extent necessary to prevent visible particulate matter emissions directly into the atmosphere.

B. Air contaminants collected from cleaning and separating operations shall be conveyed through air pollution control equipment, which has a rated, and actual particulate removal efficiency of not less than 90 percent by weight prior to release into the atmosphere.

ii. Dump-Pit Areas. [35 IAC 212.462(b)]

A. Induced draft shall be applied to major dump pits and their associated equipment (including, but not limited to, boots, hoppers and legs) to such an extent that a minimum face velocity is maintained, at the effective grate surface, sufficient to contain particulate emissions generated in unloading operations. The minimum face velocity at the effective grate surface shall be at least 200 feet per minute.

B. The induced draft air stream shall be confined and conveyed through air pollution control equipment which has an overall rated and actual particulate collection efficiency of not less than 90 percent by weight;

C. Means or devices (including, but not limited to, wind deflectors) shall be employed to prevent a wind velocity in excess of 50 percent of the induced draft face velocity at the pit; provided, however, that such means or devices do not have to achieve the same degree of prevention when the ambient air wind exceeds 25 mph.

iii. Internal Transferring Area. [35 IAC 212.462(c)]

A. Internal transferring area shall be enclosed to the extent necessary to prohibit visible particulate matter emissions directly into the atmosphere.

B. Air contaminants collected from internal transfer operations shall be conveyed through air pollution control equipment which has a rated and actual particulate removal efficiency of not less than 90 percent by weight prior to release into the atmosphere.

c. The Permittee shall operate the baghouses of the affected operations with a pressure drop that is within a range that is consistent with manufacturer's recommended levels or that during emission testing that demonstrated compliance with applicable requirements.

d. The Permittee shall operate and maintain air pollution control equipment in a manner that assures that applicable requirements are met. The actions taken by the Permittee to meet this requirement shall include at least the following:

i. Written operating procedures shall be maintained and updated describing normal process and equipment operating parameters; monitoring or instrumentation for measuring control equipment operating parameters, if any; and control equipment inspection and maintenance practices. With respect to control equipment maintenance practices, the operating procedures may incorporate the manufactures recommended operating instructions, if a copy of these instructions is attached to the procedures.

ii. Visual inspections of air pollution control equipment shall be conducted on a regular schedule. These inspections shall include a detailed inspection of the performance and condition of control equipment at least once per year.

2.3.6 Emission Limitations

a. Fabric filters (baghouses) on affected processes shall comply with an emission limit of 0.01 grain per standard cubic foot (gr/scf).

b. The affected processes shall be operated so that opacity of any fugitive emission, as determined leaving any building or enclosure, from:

i. Any individual truck or railcar unloading station shall not exhibit greater than 5 percent opacity.

ii. Any grain handling operation shall not exhibit greater than 0 percent opacity.

c. i. Particulate matter emissions from affected operation shall not exceed the following limits. These limits are based on information provided in the application.

Operation	Emission Factor (gr/scf)	Emissions (Lb/Hr)	(T/Yr)
Grain Receiving and Handling	0.01	0.26	1.14
Grain Cleaning and Hammermills	0.01	0.69	3.02
		Total:	4.16

ii. The above limits do not account for uncaptured particulate matter emissions from the receiving and handling of grain, which shall not exceed 8.82 tons/year.

2.3.7 Testing Requirements

Upon written request by the Illinois EPA, The Permittee shall perform emission tests as requested for affected operations as specified in Condition 3.2.

2.3.8 Monitoring Requirements

None

2.3.9 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the affected operations:

a. The permanent grain storage capacity of the plant, with supporting documentation, which record shall be updated if the permanent grain storage capacity of the plant changes.

b. Records related to grain throughput, on a monthly basis:

i. Grain received (tons/month).

ii. Grain in storage (tons).

iii. Grain processed, based on amount received adjusted for change in amount stored (tons/month).

iv. Grain processed (tons/year).

c. The differential pressure of the baghouses at least once per operating day.

d. Logs for inspections, other equipment observations, preventative maintenance, maintenance activities other than preventative maintenance, and repair of air pollution control equipment which include: date, duration, nature, and description of observation or action.

e. All other data used or relied upon to determine the PM emissions affected operations.

f. Records of PM emissions from affected operations (tons/month and tons/year) based on appropriate emission factors and operating data, with supporting calculations.

2.3.10 Reporting Requirements

a. The Permittee shall promptly notify the Illinois EPA of any deviations from the requirements of this permit for the affected operations as follows. These notifications shall include the information specified by Condition 3.5.

i. Excess opacity that lasts more than 24 minutes (four 6-minute averaging periods) shall be immediately reported to the Illinois EPA.

ii. The deviations addressed above and all other deviations shall be reported with the quarterly compliance report.

2.3.11 Compliance Procedures

Compliance with the emission limits of Condition 2.3.6(c) shall be based on the records required by Condition 2.3.9, emission factors published by USEPA for uncontrolled or uncaptured operations and the manufacturer guaranteed emissions rates for air pollution control equipment for controlled operation.

2.4 Fermentation

2.4.1 Description

Ethanol is produced by fermentation of the starch in corn. Ground corn is prepared for fermentation by converting it to "mash", by the addition of water and enzymes in a series of liquefaction and saccharification tanks that with heating, break the ground corn into fine slurry. In the fermentation tanks, yeast is added to the mash to begin the batch fermentation process.

The CO_2-rich gas generated by the fermentation tanks is routed through a scrubber to recover ethanol and other organic compounds in the exhaust. The fermentation scrubber is also referred to as the "CO_2 scrubber", as it scrubs the CO_2 stream from the fermentation tanks. The wastewater generated from the scrubbing process is routed back to the fermentation process for reuse.

The exhausts from other significant units used to prepare the mash, i.e., slurry tank, flash tank, yeast tank, are vented to the control system for distillation operations. These units are addressed by Condition 2.5 of this permit.

2.4.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
EU004	In-Line Cooking System	
EU007	Liquefaction Tanks	
	CIP Caustic Screen	
EU008	Fermentation Tanks	Fermentation Scrubber (CE002)
EU009	Beer Well	Fermentation Scrubber (CE002)

2.4.3 Applicability Provisions and Applicable Regulations

a. An "affected process" for the purpose of these unit specific conditions is an emission unit described in Conditions 2.4.1 and 2.4.2.

b. Affected process emission units are subject to 35 IAC 212.321, which provide that:

> No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit, either alone or in combination with the emission of particulate matter from all other similar process emission units … at a source or premises, exceeds the allowable emission rates specified in 35 IAC 212.321(c).

2.4.4 Non-Applicability of Regulations of Concern

a. This permit is issued based on the fermentation operations not being subject to the NSPS for VOC Emissions from SOCMI Reactor Process, 40 CFR 60 Subpart RRR, because the fermentation tanks involve biological reaction and operate as batch processes.

b. For the affected processes, this permit does not address the applicability of 35 IAC 215.301 because the organic material emissions of the processes are required to be controlled by greater than 85%, such that organic material emissions are less than 8.0 lb/hr. (Refer to Condition 2.4.6(a))

2.4.5 Operational and Production Limits and Work Practices

a. i. The key operating parameters of the scrubber for the affected processes, as follow shall be maintained at levels that are consistent with levels at which emission testing demonstrated compliance with applicable requirements:

A. Minimum scrubber water flow rate: hourly average.

B. Maximum scrubber water outlet temperature: hourly average.

C. Maximum scrubber exhaust gas outlet temperature: hourly average.

Note: Based on emissions conducted on August 21 and 22, 2003, the relevant levels for these operating parameters are: 65 gallons/minute (minimum), 97°F (maximum), and 83°F (maximum) for scrubbant water flow rate, scrubber water outlet temperature and scrubber exhaust gas outlet temperature, respectively. These levels shall remain in effect until the results of later testing are submitted demonstrating compliance, which shall then establish new levels for these operating parameters.

ii. Notwithstanding the outlet temperature(s) of the scrubber may exceed the applicable level during a Clean-In-Place, when a fermentation tank is cleaned at the end of each batch cycle. This authorization is subject to the following requirements, that:

A. The Permittee demonstrates that the exceedance is attributable to the Clean-In-Place Cycle.

B. The control device was properly operated by the Permittee.

C. The Permittee reports the exceedance(s) to the Illinois EPA within 10 days.

D. The Permittee continues to evaluate improvement to Clean-In-Place Cycles to eliminate or reduce exceedances as addressed in the quarterly reporting during any quarter in which the Permittee relies upon these provisions.

E. The Permittee shall include a Clean-In-Place Cycle during one of the runs of future emission tests or demonstrate that the plans to include a Clean-In-Place Cycle in such testing could not be accomplished due to events that could not be predicted or reasonably accommodated.

iii. If the differential pressure across the scrubber is outside of the normal operating range (either below 4 or above 18 inches of water column) for a period of 4 hours, the Permittee shall inspect the scrubber with 24 hours and initiate appropriate corrective action to restore the pressure drop of the scrubber to the normal range.

iv. The Permittee shall operate and maintain the scrubber in accordance with written procedures developed and maintained by the Permittee.

b. i. If emission testing of the affected process shows compliance with requirements for VOM by less than a 20 percent margin (e.g., if scrubber efficiency governs, scrubber control efficiency is only in the range of 96 percent) the Permittee shall implement a Control Improvement Program (Program) for the affected process with the objective of achieving compliance by a margin of at least 20 percent.

ii. The Permittee shall submit a copy of the program to the Illinois EPA for its review and comments within 30 days after receiving test results that triggers this requirement for a Control Improvement Program (Program).

iii. A. If the emission testing demonstrated that the compliance margin was between 10 and 20 percent, the Program shall be completed in one year.

B. If the emission testing demonstrated the compliance margin was less than 10 percent, the Program shall be completed in six months.

C. Following completion of the Program, the Permittee shall again test VOM emissions from the affected process.

2.4.6 Emission Limitations

a. The VOM emissions from the affected processes that are to be controlled, i.e., the fermentation tanks and beer well, shall be controlled by at least 95 % weight percent or to a concentration of no more than 20 ppmv, whichever is less stringent.

Note: These limitations for the affected processes are established by the Agreed Order (Paragraph VIII.A.1(b)(i)).

b. i. Emissions of VOM from the affected processes that are to be controlled shall not exceed 9.25 pounds/hour and 40.5 tons/year.

ii. This permit is issued based on negligible PM emissions from the affected process emission units. For this purpose, PM emissions from these units, in total, shall not exceed 0.1 lb/hr and 0.44 tons/year.

c. i. The acetaldehyde emissions of the affected process shall not exceed 0.72 lb/hr and 3.16 tons/yr.

ii. The emissions of individual HAPs, other than acetaldehyde, from the affected process shall not exceed 0.048 lb/hr and 0.21 tons/yr.

iii. The emissions of total HAPs, other than acetaldehyde, from the affected process shall not exceed 0.073 lb/hr and 0.32 tons/yr.

2.4.7 Testing Requirements

Upon written request by the Illinois EPA, The Permittee shall perform emission tests as requested for an emission unit as specified in Condition 3.2.

2.4.8 Monitoring Requirements

a. i. The Permittee shall equip the fermentation scrubber with continuous monitoring devices for the scrubber water flow rate, scrubbant discharge temperature at the bottom of the scrubber, scrubber exhaust gas discharge temperature, and differential pressure across the packed bed and demister section of the scrubber. These monitoring devices shall be installed, operated, maintained and calibrated according to the supplier's specifications and record minute-by-minute and average hourly data. The Permittee shall maintain logs for the maintenance and repair of these devices.

ii. During any period when measurements are not recorded by the computerized data logging system, measurements shall be manually recorded at least twice per shift.

2.4.9 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the affected processes:

a. Records of normal process parameters, with supporting calculations and documentation:

i. Fermentation feed rate;

ii. Fermentation tank liquid levels;

iii. Quantity of grind (ground grain) in each fermentation tank.

b. Records for operation of the affected processes and scrubber, including:

i. Identification of any period of scrubber deviation or upset, including any deviations due to Clean-In-Place Cycles, and the operating levels of the process and scrubber during such incident.

ii. Records for any period during which any affected process was in operation when the scrubber was not in operation or was malfunctioning so as to cause emissions in excess of an applicable emissions limitation.

c. The Permittee shall keep a log for inspection, maintenance, and repairs for fermentation units and the associated scrubber.

d. Records for any upsets in fermentation operations or other operations that could generate additional VOM and HAP emissions, with a description of the incident, an estimate of the additional VOM and HAP emissions that occurred with supporting calculations, and background information.

e. Records of the VOM and HAP emissions from the affected processes (tons/month and tons/year), as determined at the scrubber and any other vents, based on appropriate emission factors, with supporting calculations.

Note: For the purpose of these records, HAPS shall include acetaldehyde and other organic HAPs emitted from the affected processes, as addressed during emissions testing.

2.4.10 Reporting Requirements

a. The Permittee shall promptly notify the Illinois EPA of any deviations from the requirements of this permit for the affected processes as follows. These notifications shall include the information specified by Condition 3.5.

i. If there is an exceedance of applicable requirements for the scrubber by more than 2.0 percent, as determined by the monitoring required by Condition 2.4.8, that lasts longer than three hours, the Permittee shall immediately notify the Illinois EPA.

ii. The deviations addressed above and all other deviations shall be reported with the quarterly compliance report.

b. If there is any deviation of the requirements of this permit, not addressed by the above reporting requirements, as determined by the records required by this permit or by other means, the Permittee shall submit a report with the quarterly compliance report.

c. Notwithstanding the above, if a deviation from the requirements of this permit will occur from required maintenance, repair or other activity that can be scheduled in advance, the Permittee shall also notify the Illinois EPA prior to undertaking such activity if it is feasible to do so. Such notification shall be submitted at least 5 days in advance unless the activity is scheduled less than 5 days in advance. This notification may be supplemented with additional information submitted within 7 days of the deviation, as needed to provide all information required by Condition 3.5(a).

2.4.11 Compliance Procedures

a. Compliance with the emission limitations of Condition 2.4.6 shall be based on the records required by Conditions 2.4.8, 2.4.9, and appropriate emissions factors developed from testing of the affected processes.

2.5 Distillation

2.5.1 Description

During the distillation process, the solids and water are separated from the ethanol-rich "beer" produced in the fermentation tanks with a vacuum distillation system, to produce approximately 190 proof ethanol (95% ethanol, 5% water). The remaining water in the ethanol is removed in a molecular sieve to produce approximately 200 proof (100% ethanol). Denaturant is added to the finished product prior to storage.

The emissions from the distillation process, along with the emissions of certain units associated preparation for fermentation are currently controlled by a scrubber. Adkins intends to use an afterburner as the principle control device for the distillation process in the future. The distillation scrubber will be maintained in operational condition and be used to control distillation emissions when they are not directed to the afterburner. Accordingly, the conditions in this section applicable to the distillation scrubber apply when the scrubber is being used or relied upon to control emissions from the connected processes. As these emissions are redirected to the afterburner, these conditions would not be applicable.

Stillage from the bottom of the distillation system is routed to mechanical centrifuges for de-watering. The recovered water or "thin stillage" from the centrifuges is processed in a steam driven evaporator to produce thick syrup. The emissions from these units are small and not controlled. The wet cake from the centrifuges and the syrup solubles from the evaporator are mixed and conveyed to the feed operations, to either be shipped out wet or to be further processed by drying.

2.5.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
EU003	Slurry Tank	Afterburner or Distillation Scrubber (CE003)
EU005	Flash Tank	
EU006	Yeast Tank	
EU010	Beer Column	
	Rectifier Column	
	Side Stripper	
	Molecular Sieve	
	Whole Stillage Tank	
	Ethanol Regeneration Tank	
	190 Proof Condenser	

Emission Unit	Description	Emission Control Equipment
	190 Proof Reflux Tank	
	Mash Screen	
	Evaporators	
	Syrup Tank	
	Thin Stillage Tank	
	Biomethanator Feed Tank	
	Centrifuges	Afterburner

2.5.3 Applicability Provisions and Applicable Regulations

a. An "affected process" for the purpose of these unit specific conditions is an emission unit described in Conditions 2.5.1 and 2.5.2.

b. Affected process emission units are subject to 35 IAC 212.321. (Refer to Condition 2.4.3(b).)

2.5.4 Non-Applicability of Regulations of Concern

a. This permit is issued based on the affected process not being subject to either 40 CFR 60, Subpart NNN or RRR, Standards of Performance for Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry Distillation Operations, or Reactor Processes, respectively, based upon guidance from USEPA that this regulation is not applicable to processing of material produced by biological reaction. (If this NSPS were applicable, it would require achievement of 98% control for VOM emissions.)

b. This permit does not address the applicability of 35 IAC 215.301 for the affected processes because the organic material emissions of the processes are required to be controlled by greater than 85%, such that organic material emissions are less than 8.0 lb/hr. (Refer to Condition 2.5.6(a)).

2.5.5 Operational and Production Limits and Work Practices

a. Scrubber operating requirements

i. The operating parameter(s) of the air pollution control equipment for the affected distillation units as follow, shall be maintained at levels that are consistent with levels at which emission testing demonstrated compliance with applicable requirements:

A. Minimum scrubber water flow rate: hourly average.

B. Maximum scrubber water outlet temperature: hourly average.

C. Average scrubber exhaust gas outlet temperature: hourly average.

Note: Based on emissions conducted on August 21 and 22, 2003, the relevant levels for these operating parameters are: 20 gallons/minute (minimum), 118°F (maximum), and 83°F (maximum) for scrubbant water flow rate, scrubber water outlet temperature and scrubber exhaust gas outlet temperature, respectively. These levels shall remain in effect until the results of later testing are submitted demonstrating compliance, which shall then establish new levels for these operating parameters.

ii. Notwithstanding the outlet temperature(s) of the scrubber may exceed the applicable level during a Clean-In-Place, when a fermentation tank is cleaned at the end of each batch cycle. This authorization is subject to the following requirements, that:

A. The Permittee demonstrates that the exceedance is attributable to the Clean-In-Place Cycle.

B. The control device was properly operated by the Permittee.

C. The Permittee reports the exceedance(s) to the Illinois EPA within 10 days.

D. The Permittee continues to evaluate improvement to Clean-In-Place Cycles to eliminate or reduce exceedances as addressed in the quarterly reporting during any quarter in which the Permittee relies upon these provisions.

E. The Permittee shall include a Clean-In-Place Cycle during one of the runs of future emission tests or demonstrate that the plans to include a Clean-In-Place Cycle in such testing could not be accomplished due to events that could not be predicted or reasonably accommodated.

iii. If the differential pressure across the scrubber is outside of the normal operating range (either below 4 or above 18 inches of water column) for a period of 4 hours, the Permittee shall inspect the scrubber within 24 hours and initiate appropriate corrective action to restore the pressure drop of the scrubber to the normal range.

iv. The Permittee shall operate and maintain the scrubber in accordance with written procedures that it develops and maintains.

b. If emission testing of the affected process shows compliance with VOM limitations by less than a 20 percent margin, the Permittee shall implement a Control Improvement Program for the affected process, as set by Condition 2.4.5(b).

2.5.6 Emission Limitations

a. The VOM emissions from the affected process shall be controlled by at least 95 % weight percent or to a concentration of no more than 20 ppmv, whichever is less stringent.

Note: These limitations for the affected processes are established by Agreed Order (Paragraph VIII.A.1(b)(ii)).

b. Emissions of VOM from the affected processes that are controlled by distillation scrubbers shall not exceed 2.19 pound/hour and 9.58 tons/year.

c. i. The acetaldehyde emissions of the affected process shall not exceed 0.83 lb/hr and 3.64 tons/yr.

ii. The emissions of individual HAPs, other than acetaldehyde, from the affected process shall not exceed 0.055 lb/hr and 0.24 tons/yr.

iii. The emissions of total HAPs, other than acetaldehyde, from the affected process shall not exceed 0.082 lb/hr and 0.36 tons/yr.

2.5.7 Testing Requirements

Upon written request by the Illinois EPA, The Permittee shall perform emission tests as requested for an affected process as specified in Condition 3.2.

2.5.8 Monitoring and Instrumentation Requirements

a. The Permittee shall equip the distillation scrubber with a continuous monitoring device for scrubber water flow rate, scrubbant discharge temperature at the bottom of the scrubber, and scrubber exhaust gas discharge temperature and the differential pressure across the packed bed and demister section of the scrubber. These devices shall be installed, operated, maintained and calibrated according to the supplier's specifications and record minute-by-minute and average hourly data. These monitoring devices shall be operational whenever distillation exhausts are directed to the distillation scrubber. The Permittee shall maintain logs for the maintenance and repair of these devices.

b. During any period when measurements are not recorded by the computerized data logging system, measurements shall be manually recorded at least twice per shift.

2.5.9 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the affected processes:

a. Records of normal distillation process operating parameters, hourly average, with supporting calculations and documentation:

   i. Beer feed rate

   ii. Beer well ethanol content

   iii. 190-proof feed rate

   iv. 200-proof feed rate

b. A log or other records for operation of the distillation process, including:

   i. Identification of any period of scrubber deviation or upsets, including any deviations due to Clean-In-Place Cycles and the operating levels of the process and scrubber during such incident.

   ii. Records for any period during which any affected process was in operation when the scrubber was not in operation or was malfunctioning so as to cause an emissions level in excess of the emissions limitation.

   iii. Detailed information for each period when emissions are not vented to the afterburner, including the period of times when distillation and centrifuges emissions are vented through the

bypass stack and through the distillation scrubber when operating at less than its full capability, if any. For the distillation scrubber, this log shall include records for activities that are conducted to keep the scrubber ready for operation. (See Condition 2.6.5(e)(ii))

c. A log and log for inspection, maintenance, and repairs for distillation process and centrifuges and the associated scrubber.

d. Records for any upsets in the affected process or other operations that could generate additional VOM or HAP emissions, with a description of the incident, an estimate of the additional VOM and HAP emissions that occurred with supporting calculations, and background information.

e. Records of the VOM and HAP emissions from the affected processes (tons/month and tons/year), as determined at the scrubber and any other vents, based on appropriate emission factors, with supporting calculations.

Note: For the purpose of these records, HAPS shall include acetaldehyde and other organic HAPs emitted from the affected processes as addressed during emissions testing.

2.5.10 Reporting Requirements

a. The Permittee shall promptly notify the Illinois EPA of any deviations from the requirements of this permit for the affected process as follows. These notifications shall include the information specified by Condition 3.5.

i. If there is an exceedance of applicable requirements for the scrubber by more than 2.0 percent, as determined by the monitoring required by Condition 2.5.8, that lasts longer than three hours, the Permittee shall immediately notify the Illinois EPA.

ii. The deviations addressed above and all other deviations shall be reported with the quarterly compliance report.

b. If there is any deviation of the requirements of this permit, not addressed by the above reporting requirements, as determined by the records required by this permit or by other means, the Permittee shall submit a report with the quarterly compliance report.

c. Notwithstanding the above, if a deviation from the requirements of this permit will occur from required maintenance, repair or other activity that can be scheduled in advance, the Permittee shall also notify the Illinois EPA prior to undertaking such activity if it is feasible to do so. Such notification shall be submitted at least 5 days in advance unless the activity is scheduled less than 5 days in advance. This notification may be supplemented with additional information submitted within 7 days of the deviation, as needed to provide all information required by Condition 3.5(a).

2.5.11 Compliance Procedures

Compliance with the emission limits of Condition 2.5.6(b) shall be based on the records required by Conditions 2.5.8 and 2.5.9, and appropriate emissions factors developed from testing of the affected processes.

2.6 Feed Drying and Handling Operations

2.6.1 Description

A natural gas fired rotary dryer will be used to produce dry feed from wet cake. The dryer will be equipped with a cyclone to control emissions of PM10 and an afterburner to control emissions of CO, VOM, and HAP from the dryer. The afterburner also controls the associated feed cooler, which will be exhausted through the dryer after passing through a baghouse for control of its PM10 emissions. This new dryer and cooler system replaces the original dryer system installed with the plant, which was not equipped with an afterburner or other combustion-type control device.

The construction of this feed drying system with afterburner is authorized by Construction Permit 03040053. This construction permit addresses the initial startup and shakedown of this system and the requirements of that permit are not superseded by this operating permit.

When the afterburner is operated, it will also be used to control emissions from the distillation process and the centrifuges.

Feed that is not dried and is shipped “as is” is known as wet cake. Shipping of wet cake is a routine practice, as there is a market for feed for immediate consumption by cattle.

2.6.2 List of Emission Units and Pollution Control Equipment

Description of Emission Unit	Emission Control Equipment
Feed Dryer with Low-NO_x Burners (60 million Btu/hr)	Cyclones, Venturi scrubber, Afterburner
Feed Cooler (Baghouse)	
Dry Feed Transfer Conveyor	Spot Filter baghouse (FX-890)
Dry Feed Storage	
Dry Feed Loadout	
Wet Cake Handling and Loadout (Wet Cake Pad)	

2.6.3 Applicability Provisions and Applicable Regulations

a. An "affected unit" for the purpose of these unit specific conditions is an emission unit described in Conditions 2.6.1 and 2.6.2.

b. Affected units are subject to 35 IAC 212.321. [Refer to Condition 2.4.3(b)]

c. The emission of smoke or other particulate matter from the affected units shall not have an opacity greater than 30 percent. Compliance with this limit shall be determined by 6-minute averages of opacity measurements in accordance with USEPA Reference Method 9. [35 IAC 212.109 and 212.123(a)]

2.6.4 Non-Applicability of Regulations of Concern

For the feed dryer, this permit does not address the applicability of 35 IAC 215.301 because the organic material emissions of the feed dryer are required to be controlled by greater than 85%, such that organic material emissions are less than 8.0 lb/hr. [Refer to Condition 2.6.6(a)]

2.6.5 Operational and Production Limits and Work Practices

a. i. Natural gas and biogas from the bio-methanator shall be the only fuels fired in the feed dryer.

ii. The rated firing rate of the feed dryer shall not exceed 60 million Btu/hour.

iii. The feed dryer shall be equipped, operated, and maintained with low NO_x burners.

b. i. Natural gas shall be the only fuel fired in the afterburner.

ii. The rated firing rate of the afterburner shall not exceed 18 million Btu/hour.

c. i. During operation of the feed dryer, the key operating parameters of the feed dryer/control system shall be maintained at levels that are consistent with levels at which emission testing demonstrated compliance with applicable requirements, including the following:

A. Maximum temperature at inlet of feed dryer: °F.

B. Minimum Pressure drop across the cyclones: inches H_2O.

C. Minimum water flow rate of the scrubber (gallon per minute) and minimum pressure drop across the scrubber (inches H_2O), if the scrubber was operated during the emission testing.

ii. During periods when feed is present in the dryer or emissions from other units are vented to the

afterburner, the minimum afterburner combustion chamber temperature shall be maintained at a temperature that is consistent with the temperature at which emission testing demonstrated compliance with applicable requirements.

iii. The combustion chamber of the afterburner shall be preheated to the manufacturer's recommended temperature or a temperature that is consistent with the most recent emission test in which compliance was demonstrated, prior to sending the wet cake to the feed dryer or venting other units to the afterburner.

iv. Notwithstanding the above, for the purpose of evaluation of the control system and further emission testing, the Permittee may operate the control system at different operating parameters (or operate without the Venturi scrubber in service) in accordance with a detailed plan describing the evaluation and testing program submitted to and approved by the Illinois EPA.

v. These provisions are not applicable during the shakedown period provided by Construction Permit 03040053, prior to performance of emission testing.

d. i. When feed is present in the dryer, the dryer shall be vented to the bypass stack for the afterburner only as necessary for operating safety, e.g., purge and reignition of the dryer/afterburner system in the event of a burner flameout or orderly shutdown of the dryer.

ii. Other units controlled by the afterburner shall be vented either to the afterburner or to their existing control equipment and stacks.

e. i. During a scheduled shutdown of the feed dryer/afterburner, the transfer of the distillation process emissions to the distillation scrubber shall be accomplished prior to the shutdown of the afterburner.

ii. The Permittee shall maintain the distillation scrubber such that it can be readily operated to provide control of distillation process emissions, including periodic inspection and operation of the scrubber as needed to ensure ready availability of the scrubber to control the distillation process. Additional provisions or revised provisions for

monitoring and recordkeeping for this scrubber may be included in subsequent permits based on actual operating data and experience.

f. The Permittee shall operate and maintain the feed dryer and associated control system in accordance with written procedures developed and maintained by the Permittee. These procedures shall provide for good air pollution control practices to minimize emissions and shall include the Permittee's standard operating procedures for startup, normal operation, and shutdown of the dryer system and address likely malfunction and upsets events for the dryer system.

g. i. If the initial emission testing or subsequent testing of the feed dryer/afterburner, shows compliance with requirements for VOM emission by less than 20 percent of the permitted VOM emissions (e.g., afterburner control efficiency is only in the range of 95 to 96 percent) the Permittee shall implement a Control Improvement Program (Program) for the affected process with the objective of achieving compliance by a margin of at least 20 percent.

ii. The Permittee shall submit a copy of the Program to the Illinois EPA for its review and comments within 30 days after receiving test results that triggers this requirement for a Control Improvement Program (Program).

iii. A. If the emission testing demonstrated that the compliance margin was between 10 and 20 percent, the Program shall be completed in one year.

B. If the emission testing demonstrated the compliance margin was less than 10 percent, the Program shall be completed in six months.

C. Following completion of the Program, the Permittee shall again test VOM emissions from the affected unit.

h. The Permittee shall obtain a Construction Permit from the Illinois EPA prior to physically removing the Venturi scrubber from the control system for the feed dryer.

i. Emissions of particulate matter from feed loadout shall be controlled by partial enclosure and loadout practices to minimize loss of dust.

2.6.6 Emission Limitations

a. i. The VOM emissions from the feed dryer shall be controlled by at least 95 weight percent or to a concentration of no more than 10 ppmv, whichever is less stringent.

ii. The CO emissions from the feed dryer shall be controlled by at least 90 weight percent or to an outlet concentration of no more than 100 ppmv, whichever is less stringent.

Note: These limitations for the feed dryer system are established by the Agreed Order (Paragraph VIII.A.1(f)).

b. i. Emissions of the feed dryer/afterburner shall not exceed the following limits. These limits are based on information in the application, including the information from the dryer design and construction contractor based on previous dryer testing and proposed design changes. These emission estimates include the maximum natural gas firing rates in the dryer and afterburner of 60 million Btu/hr and 18 million Btu/hr respectively.

Pollutant	(lb/hr)	(tons/yr)
NO_x	8.8	38.56
CO	9.5	41.61
VOM	4.0	17.52
PM/PM_{10}	7.5	32.85
SO_2	7.5	32.85

ii. A. Fabric filter (baghouse) on dry feed conveyor shall comply with an emission limit of 0.01 grain per standard cubic feet (gr/scf).

B. Emissions of PM from dry feed conveyor shall not exceed 0.08 lb/hr and 0.35 tons/yr.

iii. Emissions of PM from dry feed loadout shall not exceed 0.04 lb/ton feed, 5.88 lb/hr and 6.62 tons/year.

iv. This permit is issued based on negligible PM emissions from the wet cake transfer and loadout operation. For this purpose, PM emissions shall not exceed 0.1 lb/hr and 0.44 tons/yr.

c. i. The acetaldehyde emissions of the feed dryer/afterburner shall not exceed 0.5 lb/hr and 2.2 tons/yr.

ii. The emissions of individual HAPs, other than acetaldehyde, from the feed dryer/afterburner shall not exceed 1.45 lb/hr and 6.35 tons/yr.

iii. The emissions of total HAPs, other than acetaldehyde, from the feed dryer/afterburner shall not exceed 2.2 lb/hr and 9.65 tons/yr.

d. The above requirements for the feed drying system are not applicable during the shakedown period addressed by the construction permit, during which period the provisions of that permit shall apply. In particular, during the shakedown period, the emission limits for the drying system are set on a daily and monthly basis.

2.6.7 Testing Requirements

Upon written request by the Illinois EPA, The Permittee shall perform emission tests as requested for an affected unit as specified in Condition 3.2.

Note: Requirements for initial emission testing of the feed dryer and afterburner are contained in Construction Permit 03040053.

2.6.8 Monitoring and Instrumentation Requirements

a. i. The Permittee shall install, operate, and maintain the following monitoring devices for the feed dryer, which shall be operated at all times that the feed dryer is in operation. These devices shall record appropriate parameters at least every 15 minutes and this data and hourly average data shall both be recorded.

A. Inlet temperature and outlet temperature of the feed dryer.

B. Differential pressure (pressure drop) across the cyclones.

C. Water flow rate (gallon/minute) and differential pressure (pressure drop) across the Venturi scrubber. (See also Condition 2.6.5(h))

D. Combustion chamber temperature of the afterburner.

ii. Notwithstanding Condition 2.6.8(a)(i)(C) as related to monitoring for the Venturi scrubber:

A. The Permittee shall commence monitoring for the Venturi scrubber one year after the initial startup of the dryer if the Venturi scrubber will be routinely operated after that date. During the period before monitoring is commenced, the Permittee shall keep records of flow and pressure drop at least once per shift, while the scrubber is in operation.

B. If monitoring for the Venturi scrubber is commenced, the Permittee need not operate the monitoring devices for the scrubber if the Permittee is not operating the scrubber, provided that the Permittee keeps records of the time when the scrubber is removed from operation and the time it is returned to operation.

b. The Permittee shall install, operate, and maintain devices to monitor the valve or damper position on the flow control devices directing the various exhaust streams to the afterburner, which shall be operated at all times that the plant is in operation. The position of these valves shall be monitored electronically by the plant operating system.

c. i. These devices shall be installed, operated, maintained and calibrated in accordance with good air pollution control practice for reliable operation and accurate data. The Permittee shall maintain logs for the maintenance and repair of these devices.

ii. The temperature monitor shall be maintained within an accuracy of 1 percent.

2.6.9 Recordkeeping Requirements

a. The Permittee shall maintain records of the following items:

i. Design information for the feed dryer/afterburner:

A. The design heat input of the feed dryer.

B. Moisture removal capacity, lb water/hour.

C. The design heat input of the afterburner, Btu/hr.

ii. Feed production as shipped (wet feed: tons/month, and dry feed: tons/month).

iii. Records for venting the feed dryer through the bypass stack and upsets in feed dryer operations or other operations that could generate additional emissions, with a description of the incident, explanation, and corrective actions and any preventative measures taken, and an estimate of the additional CO, VOM, PM, and HAP emissions that occurred, with supporting calculations and background information.

iv. Monthly and annual NO_x, CO, PM, SO_2, VOM, and HAP emissions from the feed dryer/afterburner, with supporting calculations.

Note: For the purpose of these records, HAPS shall include acetaldehyde and other organic HAPs emitted from the dryer identified during emissions testing.

b. The Permittee shall maintain an operation log and a log for inspection, maintenance, and repairs for feed dryer and associated control system, including the time when feed is present in the dryer, the afterburner not in operation, or the afterburner is by passed.

c. The Permittee shall comply with the requirements of Condition 2.3.9(c), (d), (e) and (f) for handling, storage and loadout of feed.

2.6.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA of any deviations from the requirements of this permit for the affected units as follows. These notifications shall include the information specified by Condition 3.5.

a. i. If there is an exceedance of applicable requirements for the afterburner, as determined by the monitoring required by Condition 2.6.8 that lasts longer than two hours, the Permittee shall immediately notify the Illinois EPA. The initial notification for such a deviation may be supplemented with additional information submitted within 7 days of the deviation, as needed to provide all information required by Condition 3.5.

ii. Excess opacity that lasts more than 24 minutes (four 6-minute averaging periods) shall be immediately reported to the Illinois EPA.

iii. The deviations addressed above and all other deviations from applicable requirements for the afterburner shall be reported with the quarterly compliance report.

b. If there is any deviation of the requirements of this permit, not addressed by the above reporting requirements, as determined by the records required by this permit or by other means, the Permittee shall submit a report with the quarterly compliance report.

c. Notwithstanding the above, if a deviation from the requirements of this permit will occur from required maintenance, repair or other activity that can be scheduled in advance, the Permittee shall also notify the Illinois EPA prior to undertaking such activity if it is feasible to do so. Such notification shall be submitted at least 5 days in advance unless the activity is scheduled less than 5 days in advance. This notification may be supplemented with additional information submitted within 7 days of the deviation, as needed to provide all information required by Condition 3.5(a).

2.6.11 Compliance Procedures

a. For VOM and CO emissions from the feed dryer/afterburner and cooler, periods of excess emissions shall include any 1-hour period in which the average combustion temperature, when process units controlled by the afterburner are operating, was more than 50°F below the temperature during testing than demonstrated compliance with applicable requirements. Additional provisions or revised provisions defining excess emissions may be included in subsequent permits based on actual operating data and experience.

b. Compliance with the emission limits of Condition 2.6.6(b) and (c) shall be based on the equipment operation, as addressed by the records required by Condition 2.6.9 and appropriate emissions factors based on emission testing of the feed dryer/afterburner.

2.7 Ethanol and Denaturant Storage Tanks

2.7.1 Description

Internal floating roof storage tanks are used to store denaturant and product ethanol.

2.7.2 List of Emission Equipment and Pollution Control Equipment

Storage Tanks	Description	Emission Control Equipment
T855	190 Proof Day Tank Nom. Capacity 91,400 Gallons	Internal Floating Roof with Primary and Secondary Seals
T860	200 Proof Day Tank Nom. Capacity 111,700 Gallons	Internal Floating Roof with Primary and Secondary Seals
T865	Denaturant Tank Nom. Capacity 40,600 Gallons	Internal Floating Roof with Primary and Secondary Seals
T870	Denatured Ethanol Tank Nom. Capacity 651,000 Gallons	Internal Floating Roof with Primary and Secondary Seals

2.7.3 Applicability Provisions

a. An "affected tank," for the purposes of these unit specific conditions is a storage tank described in Conditions 2.7.1 and 2.7.2

a. The affected tanks are subject to the NSPS for Volatile Organic Liquid Storage Vessels, 40 CFR 60, Subpart Kb, and related provisions in Subpart A.

c. The affected tanks are subject to the control requirements of 35 IAC 215.122, which requires a permanent submerged loading pipe or an equivalent device approved by the Illinois EPA. The Illinois EPA has not approved any alternative control. [Submerged Loading Pipe - 35 IAC 215.122(b)]

2.7.4 Non-Applicable Regulations

For the affected tanks, this permit does not address the applicability of 35 IAC 215.121, 215.127, and 215.128. This is based on the Illinois EPA's finding that compliance with 40 CFR 60, Subpart Kb assures compliance with 35 IAC 215.121, 215.127, and 215.128, following the review of the requirements of 40 CFR 60 Subpart Kb and 35 IAC 215.121, 215.127, and 215.128.

2.7.5 Control Requirements

Each affected tank shall be equipped with the following closure devices between the wall of the storage vessel and the edge of the internal floating roof or other device complying with the NSPS [40 CFR 60.112b(a)(1)(ii)]:

a. Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor-mounted, but both must be continuous.

2.7.6 Emission Limitations

a. Emissions of VOM from the affected tanks shall not exceed 2.25 tons/year.

2.7.7 Operating Requirements

a. Each affected tank is limited to the storage of ethanol or denaturant.

b. Each affected tank shall be operated in compliance with the operating requirements of 40 CFR 60.112b(a)(1) and 60.113b(a), as follows:

i. The internal floating roof shall float on the liquid surface at all times, except during those intervals when the storage tank is being completely emptied and subsequently refilled and the roof rests on its leg supports. When the roof is resting on its leg supports, the process of emptying or refilling shall be continuous and shall be accomplished as rapidly as possible [40 CFR 60.112b(a)(1)(i)]

ii. Each opening in a non-contact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents shall provide a projection below the liquid surface. [40 CFR 60.112b(a)(1)(iii)]

iii. Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains shall be equipped with a cover or lid which is maintained in a closed position at all times (i.e., no visible gaps) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use. [40 CFR 60.112b(a)(1)(iv)]

iv. Automatic bleeder vents shall be equipped with a gasket and be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports. [40 CFR 60.112b(a)(1)(v)]

v. Rim space vents shall be equipped with a gasket and be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting. [40 CFR 60.112b(a)(1)(vi)]

vi. Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening. [40 CFR 60.112b(a)(1)(vii)]

vii. Each penetration of the internal floating roof that allows for the passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover. [40 CFR 60.112b(a)(1)(viii)]

viii. Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover. [40 CFR 60.112b(a)(1)(ix)]

ix. A tank that is in-service shall be repaired or emptied upon identification in an inspection that the floating roof is not resting on the surface of the VOL, there is liquid accumulated on the roof, the seal is detached, or there are holes or tears in the seal fabric. These actions shall be completed within 45 days of the inspection unless an extension is granted. [40 CFR 60.113b(a)(2) and (a)(3)(ii)]

x. A tank that is empty shall be repaired prior to refilling the tank upon identification in an inspection that the floating roof has defects, the primary seal has holes, tears or other openings in the seal or seal fabric, or the secondary seal has holes, tears or other openings in the seal or seal fabric, or the gaskets no longer close off. [40 CFR 60.113b(a)(3)(ii) and (a)(4)]

2.7.8 Inspection Requirements

The Permittee shall fulfill the applicable testing and procedures requirements of 40 CFR 60.113b(a) for each affected tank, including the following:

a. For affected tanks equipped with a liquid-mounted, on an annual basis, visually inspect the internal floating roof and the primary seal through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill. If the internal floating roof is not resting on the

surface of the VOL inside the storage tank, or there is liquid accumulated on the roof, or the seal is detached, or there are holes or tears in the seal fabric, the Permittee shall repair the items or empty and remove the storage tank from service within 45 days. If a failure that is detected during this inspection cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Illinois EPA in the inspection report required in Condition 1.5.10(a)(i) (40 CFR 60.115b(a)(3)). Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the storage tank will be emptied as soon as possible. [40 CFR 60.113b(a)(2)]

b. As applicable for tanks equipped with both primary and secondary seals, visually inspect each affected tank as follows: [40 CFR 60.113b(a)(3)]

   i. Visually inspect the tank as specified by 40 CFR 60.113(a)(4) at least every 5 years; or

   ii. Visually inspect the tank as specified by 40 CFR 60.113(a)(2) at least once every 12 months.

c. Visually inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes and sleeve seals (if any) each time the tank is emptied and degassed. If the internal floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area, the Permittee shall repair the items as necessary so that none of the conditions specified in this paragraph exist before refilling the storage tank with VOL. In no event shall inspections conducted in accordance with this provision occur at intervals greater than 10 years in the case of tanks for which annual visual inspection are performed and at intervals greater than 5 years in the case of tanks equipped with double-seal systems complying by means of 40 CFR 60.112b(a)(1)(ii)(B). [40 CFR 60.113b(a)(4)]

   The Permittee shall give prior notification to the Illinois EPA for the above inspections as required by 40 CFR 60.113b(a)(5). (See also Condition 2.7.10(b)

2.7.9 Recordkeeping Requirements

a. The Permittee shall fulfill the applicable recordkeeping requirements of 40 CFR 60.115b for each affected tank pursuant to 40 CFR 60.115b(a), including keep a record of each inspection performed as required by Condition 2.7.8. [40 CFR 60.115b(a)(2)]

i. The date the inspection was performed;

ii. Who performed the inspection;

iii. The method of inspection;

iv. The observed condition of each feature of the internal floating roof (seals, roof decks and fittings), with the raw data recorded during the inspection; and

v. Summary of compliance.

b. The Permittee shall maintain records of the following for each affected tank to demonstrate compliance with the Out-of-Service Inspection requirements of Condition 2.7.8(c):

Sufficient records to identify whenever the tank is empty for any reason or whenever repairs are made as a result of regular inspection or incident of roof damage or defect.

c. i. The Permittee shall keep the operating records required by 40 CFR 60.116b for each affected tank, as follows:

Records of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period. [40 CFR 60.116b(c)]

ii. The Permittee shall keep the Material Safety Data Sheet (MSDS) or other comparable data for the VOLs stored in each affected tanks, which records shall be used to identify HAPs that may be emitted from the storage and loadout of VOL.

d. The Permittee shall keep monthly and annual VOM and HAP emissions attributable to the affected tanks in tons/month and ton/year in accordance with the compliance procedures in Condition 2.7.11 to be calculated and recorded at least annually, unless a more frequent determination is necessary to determine whether the plant’s annual emissions of VOM have exceeded the limit in Table I.

2.7.10 Reporting Requirements

a. The Permittee shall fulfill all applicable reporting and notification requirements of the NSPS, 40 CFR 60.7, for the affected tanks.

b. The Permittee shall submit written notifications and reports to the Illinois EPA as required by the NSPS, for each affected tank, as follows:

i. If any of the conditions described in Condition 2.7.8(c) are detected during the annual visual inspection required in Condition 2.7.8, a report shall be furnished to the Illinois EPA within 30 days of the inspection. Each report shall identify the tank, the nature of the defects, and the date the tank was emptied or the nature of and date the repair was made. [40 CFR 60.115b(a)(3)]

ii. Notify the Illinois EPA in writing at least 30 days prior to the filling or refilling of a tank for which an inspection is required by Conditions 2.5.8 to afford the Illinois EPA the opportunity to have an observer present. If such inspection is not planned and the Permittee could not have known about the inspection 30 days in advance of refilling the tank, the Illinois EPA at least 7 days prior to the refilling of the tank. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Illinois EPA at least 7 days prior to the refilling. [40 CFR 60.113b(a)(5)]

c. The Permittee shall promptly notify the Illinois EPA of any deviations from the requirements of this permit for the affected tanks as follows. These notifications shall include the information specified by Condition 3.5.

i. If a tank is damaged so there is a deviation from an applicable requirements which is not repaired or otherwise corrected within 24 hours, the Permittee shall then immediately notify the Illinois EPA.

ii. The deviations addressed above and all other deviations shall be reported with the quarterly compliance report.

2.7.11 Compliance Procedures

Emissions from the affected storage tanks shall be determined based on operating information for the tanks and the USEPA's TANKS program.

2.7.12 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following physical or operational change with respect to an affected tank without prior notification to the Illinois EPA or revision of this permit. This condition does not affect the Permittee's obligation to continue to comply with applicable requirements and to properly obtain a construction permit in a timely manner for any activity constituting construction or modification of the source, as defined in 35 IAC 201.102:

Changes in seal type and configuration, made during the course of normal repair and maintenance of an affected storage tank's floating roof.

2.8 Loading Rack

2.8.1 Description

The loading rack transfers ethanol into tank trucks for shipment. VOM emissions occur from the VOM-laden air displaced from the tank when material is loaded.

2.8.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
Truck Loading Rack	Loading Rack Used for Loading Ethanol Into Tank Trucks	Enclosed Flare

2.8.3 Applicability Provisions and Applicable Regulations

a. An "affected loading rack," for the purpose of these unit-specific conditions, is a loading rack described in Conditions 2.8.1 and 2.8.2.

2.8.4 Non-Applicability of Regulations of Concern

a. This permit is issued based on the affected loading rack not being subject to applicable requirements for handling of gasoline because the vapor pressure of the ethanol product is less than 4.0 psi and hence will not be subject to the requirements applicable to handling of gasoline, including 40 CFR 60 Subpart XX, the NSPS for Bulk Gasoline Terminals.

b. The affected loading rack is excused from the requirement to use submerged loading pipes pursuant to 35 IAC 215.122(a) because each affected loading rack is equipped and operated with vapor collection and control equipment.

2.8.5 Control Requirements and Operational Limitations

a. The Permittee shall route vapor displaced by ethanol loadout to the flare system.

b. The flare shall be designed and be operated to comply with applicable requirements of 40 CFR 60.18, including:

i. The flare shall be operated by the Permittee with no visible emissions as determined by the methods specified in 40 CFR 60.18(f)(1), except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

ii. The flare shall be operated by the Permittee with a flame present when vapors displaced by ethanol loadout are being vented to it, as determined by the methods specified in 40 CFR 60.18(f)(2).

iii. The flare shall be used only with the net heating value of the gas being combusted being 300 Btu/scf or greater. The net heating value of the gas being combusted shall be determined by the methods specified in 40 CFR 60.18(f)(3). Note: Natural gas or other gaseous fuel may be added to the displaced vapors to comply with this requirement.

iv. The flare shall be operated by the Permittee with an exit velocity less than the maximum allowable velocity, V_{max}, as determined by the method specified in 40 CFR 60.18(f)(6).

v. The Permittee shall monitor the flare to ensure that it is operated and maintained in conformance with the manufacture=s design, as required by 40 CFR 60.18(d).

c. The Permittee shall generally operate the ethanol loading rack with the flare system in accordance with good air pollution control practice to minimize emissions of VOM.

d. The vapor control system shall be operated at all times during the loading of organic liquids and all displaced vapors are to be vented only to the vapor control system.

e. At all times during the loading of organic liquids, the vapor control system shall operate and all vapors displaced in the loading of organic materials are to be vented only to the vapor control system.

f. There shall be no liquid drainage from the loading device of the affected loading rack when it is not in use.

g. The Permittee shall provide a pressure tap or equivalent on the vapor collection system associated with an affected loading rack. The vapor collection system and the organic material loading equipment shall be operated in such a manner that it prevents avoidable leaks of liquid during loading or unloading operations and prevents the gauge pressure from exceeding 18 inches of water and the vacuum from exceeding 6 inches of water and to be measured as close as possible to the vapor hose connection.

h. All loading and vapor return lines shall be equipped with fittings that are designed to be vapor tight.

2.8.6 Emission Limitations

a. The VOM emissions from the affected loading rack shall be controlled to achieve at least 95 % reduction in VOM emissions during ethanol loadout operations.

Note: This limitation for ethanol loadout is established by the Agreed Order (Paragraph VIII.A.1(e)).

b. This permit is issued based on the flare achieving a nominal VOM destruction efficiency of at least 98 percent.

c. The total organic compound emissions from the affected loading rack and associated flare shall not exceed 5.0 pounds per 1000 gallons of material loaded. This rate shall include those emissions not captured or controlled.

d. Emissions of nitrogen oxides (NO_x), carbon monoxide (CO) and volatile organic material (VOM) from ethanol loadout and flaring shall not exceed the following limits:

	Emission Limits	
Pollutant	(Tons/Month)	(Tons/Year)
NO_x	0.16	1.79
CO	0.07	0.72
VOM	0.20	2.13

These limits are based on the information in the application for the flare, including emission factors for NO_x, CO, and VOM respectively, of 0.084, 0.034, and 0.10 pound per 1,000 gallons of ethanol loaded out, and maximum ethanol throughput of 42,500,000 gallons per year.

e. This permit is issued based on minimal emissions of PM and SO_2 from the flare. For this purpose, emissions shall not exceed a nominal emission rate of 0.2 pound/hour and 1.0 tons/year.

2.8.7 Testing Requirements

Upon written request by the Illinois EPA, The Permittee shall perform emission tests as requested for the affected loading rack as specified in Condition 3.2.

2.8.8 Monitoring Requirements

a. The Permittee shall operate the affected loading rack and flare in accordance with written procedures. These procedures may be the procedures provided by the supplier of equipment or procedures developed and maintained by the Permittee.

b. The Permittee shall keep a copy of the operating and maintenance procedures for the flare system provided by

the supplier at a location at the plant where they are readily accessible to the individuals who are responsible for operation and maintenance of the flare.

2.8.9 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the affected loading rack:

a. Operating records for each day on which ethanol loadout is conducted, as follow:

i. Date and amount of ethanol loaded.

ii. Confirmation that established operating procedures were followed.

iii. Confirmation that the flare functioned properly, i.e., a flame was present and no visible emissions were observed except as allowed by 40 CFR 60.18(c)(1).

b. Records for each event when ethanol loadout continues when the flare is not operating properly to control VOM emissions:

i. Date, time, and duration of event.

ii. Description of event.

iii. Estimated amount of ethanol loaded until the situation was corrected or loadout ceased.

iv. Reason why loadout could not be immediately ceased.

v. Corrective actions taken.

vi. Actions taken to prevent or reduce the likelihood of future occurrences.

c. An inspection, maintenance and repair log for the flare system, which lists activities that are performed, with date and responsible individual(s).

d. Monthly and annual records of the emissions of VOM, CO, NO_x and HAP from the affected loading rack, with supporting calculations. For this purpose, standard emission factors shall be used for periods when the flare operates properly, e.g., 98 percent destruction of VOM. For periods when the flare does not operate properly,

specific estimates of emissions shall be made, accompanied by written justification or explanation.

2.8.10 Reporting Requirements

a. The Permittee shall promptly notify the Illinois EPA of any deviations from the requirements of this permit for the affected loading rack as follows. These notifications shall include the information specified by Condition 3.5.

i. If there is an exceedance of applicable requirements during loadout of ethanol that lasts longer than one hour, the Permittee shall immediately notify the Illinois EPA. For this purpose, an exceedance shall be considered to continue even if operation of the loading rack is interrupted if the exceedance condition is still present when operation is resumed.

ii. The deviations addressed above and all other deviations shall be reported with the quarterly compliance report.

2.8.11 Compliance Procedures

Compliance with the emission limits of Condition 2.8.6 shall be based on the records required by Condition 2.8.9, the use of appropriate emission factors, developed using published USEPA emissions estimation methodology, and standard USEPA emission factors, as control systems are properly operated.

2.8.12 Operational Flexibility/Anticipated Operating Scenarios

a. The Permittee is authorized to make the following physical changes with respect to these units without prior notification to the Illinois EPA or revision of this permit. This condition does not affect the Permittee's obligation to properly obtain a construction permit in a timely manner if these changes would accompany an activity that would constitute construction or modification of an emission unit, as defined in 35 IAC 201.102.

Changes in fittings made during the course of repair and maintenance of the affected loading rack.

b. For the purpose of maintaining control during the scheduled or unplanned outages of the permanent flare, the Permittee is allowed to install and operate a portable flare on a temporary basis subject to the following provisions:

i. The temporary flare may be operated during periods when the permanent flare is out of service and as reasonably needed for transition between the permanent and a portable flare.

ii. The Permittee shall notify the Illinois EPA prior to proposed installation of temporary flare. With this notification, the Permittee shall provide information on the type of the flare, capacity of the flare, and duration of time for which the flare will be operated.

iii. The requirements of this permit shall apply to the portable flare or as appropriate, to the combination of the permanent and temporary flare (Condition 2.8.6(d)).

iv. The Permittee shall notify the Illinois EPA when the permanent flare is returned to service and the portable flare is removed from the site.

2.9 Leaking Components

2.9.1 Description

Equipment components, such as valves, flanges, etc., involved with the fermentation, distillation and subsequent handling of ethanol and denaturant generate VOM emissions when they leak.

2.9.2 List of Emission Equipment and Pollution Control Equipment

Emission Unit	Description	Emission Control Measures
Equipment Components (Valves, Flanges, Pump Seals, Etc.)	Leaks that occur in the piping system	Work Practices and Equipment Replacement

2.9.3 Applicability Provisions

a. The "affected components" are equipment components, described in Condition 2.9.1 and 1.9.2 that are in VOM service.

b. The affected components associated with the fermentation and distillation operations are subject to the NSPS for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry, 40 CFR 60, Subpart VV, and related provisions in Subpart A.

2.9.4 Non-Applicable Regulations

a. This permit is issued based on affected components not being subject to the requirements of 35 IAC Part 215, Subpart Q, Leaks from Synthetic Organic Chemical and Polymer Manufacturing Equipment, pursuant to the applicability provisions at 35 IAC 215.420, because the plant will have less than 1,500 components in gas or light liquid service (which components are used to manufacture the chemicals or polymers listed in 35 IAC Part 215, Appendix D).

b. For the affected components, this permit does not address the applicability of 35 IAC 215.142 to certain components because the leaks of organic material are being addressed by the requirements of the NSPS, 40 CFR 60 Subpart VV or comparable requirements, which require timely repairs of any leaking component.

2.9.5 Control Requirements

For affected components, that are subject to 40 CFR 60, Subpart VV the Permittee shall follow the work practice requirements set forth in 40 CFR 60.482-1 (Standards:

General), 60.482-2 (Standards: Pumps in light liquid service), 60.482-4 (Standards: Pressure relief devices in gas/vapor service), 60.482-5 (Standards: Sampling connection systems), 60.482-6 (Standards: Open-ended valves or lines), 60.482-7 (Standards: Valves in gas/vapor service and light liquid service)*, 60.482-8 (Standards: Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connectors), 60.482-9 (Standards: Delay of repair), and 60.482-10 (Standards: Closed vent systems and control devices).

* The Permittee may elect to utilize the alternative standards of 40 CFR 60.483-1 or 60.483-2, where applicable.

2.9.6 Emission Limitations

a. Emissions of VOM from the affected components shall not exceed 5.0 tons per year, total, as determined by use of appropriate USEPA methodology for estimating emissions from leaking components.

2.9.7 Operating Requirements

a. For affected components that are not subject to 40 CFR Part 60, Subpart VV, the Permittee shall repair any affected component from which a leak of volatile organic liquid (VOL) is detected or observed. The repair shall be completed as soon as practicable but no later than 21 days after the leak is found. If the leaking component cannot be repaired until the process unit is shut down, the leaking component must then be repaired before the unit is restarted.

b. For affected components that are subject to 40 CFR 60, Part 60, Subpart VV the Permittee shall follow the operating requirements set in 40 CFR 60.482-1 (Standards: general), 60.482-2 (Standards: Pumps in light liquid service), 60.482-4 (Standards: Pressure relief devices in gas/vapor service), 60.482-5 (Standards: Sampling connection systems), 60.482-6 (Standards: Open-ended valves or lines), 60.482-7 (Standards: Valves in gas/vapor service and light liquid service), 60.482-8 (Standards: Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connectors), 60.482-9 (Standards: Delay of repair), and 60.482-10 (Standards: Closed vent systems and control devices).

2.9.8 Inspection Requirements

For all affected components that are in VOC service, as defined by 40 CFR 60.481, other than components in vacuum service, the Permittee shall follow the inspection requirements set forth in 40 CFR 60.482-1 (Standards: General), 60.482-2 (Standards: Pumps in light liquid service), 60.482-4 (Standards: Pressure relief devices in gas/vapor service), 60.482-5 (Standards: Sampling connection systems), 60.482-6 (Standards: Open-ended valves or lines), 60.482-7 (Standards: Valves in gas/vapor service and light liquid service)*, 60.482-8 (Standards: Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connectors), 60.482-9 (Standards: Delay of repair), and 60.482-10 (Standards: Closed vent systems and control devices).

* The Permittee may elect to utilize the alternative standards of 40 CFR 60.483-1 through 60.483-2, where applicable.

2.9.9 Recordkeeping Requirements

The Permittee shall maintain the following records related to affected components:

a. The applicable records as specified in 40 CFR 60.486.

b. A leaking components monitoring log, which shall contain the following information:

i. The name of the process unit where the component is located;

ii. The type of component (e.g., valve, pump seal);

iii. The identification number of the component;

iv. The date on which a leaking component is discovered;

v. The date on which a leaking component is repaired;

vi. The date and instrument reading of the recheck procedure after a leaking component is repaired;

vii. A record of the calibration of the monitoring instrument;

viii. The identification number of leaking components which cannot be repaired until process unit shutdown; and

ix. The total number of components inspected and the total number of components found leaking during that monitoring period.

c. All required reports as specified at 40 CFR 60.487.

d. Records on at least an annual basis of the VOM and HAP emissions attributable to affected components, with supporting documentation and calculations.

2.9.10 Reporting Requirements

a. The Permittee shall fulfill all applicable notification and reporting requirements of the NSPS for the affected components.

b. The Permittee shall report any deviations from the requirements of this permit for the affected components in the quarterly compliance report submitted to the Illinois EPA. These reports shall include the information specified by Condition 3.5.

2.9.11 Compliance Procedures

Compliance with emission limits of Condition 2.9.6 shall be based on the records required by Condition 2.9.9 and the use of appropriate USEPA emissions factors for VOM losses from leaking components.

2.9.12 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to repair and replace affected components without prior notification to the Illinois EPA or revision of this permit. This condition does not affect the Permittee’s obligation to properly obtain a construction permit in a timely manner for any activity constituting construction or modification of the source, as defined in 35 IAC 201.102.

2.10 Bio-methanator

2.10.1 Description

The bio-methanator treats certain wastewater streams that contain high levels of organic material, producing a small stream of methane-rich bio-gas as a byproduct. This bio-gas is either used as fuel at the plant, substituting for natural gas, or disposed of by burning in the flare associated with the bio-methanator.

2.10.2 List of Emission Units and Pollution Control Measures

Emission Unit Description	Emission Control Equipment
Bio-methanator	Digester Flare

2.10.3 Applicable Regulations

The bio-methanator is subject to 35 IAC 212.321. (Refer to Condition 2.4.2(b).)

2.10.4 Non-Applicability of Regulations of Concern

None

2.10.5 Operational and Production Limits and Work Practices

a. The exhaust from the bio-methanator shall directly routed to the flare or used as fuel in the dryer.

2.10.6 Emission Limitations

Emissions from the bio-methanator, excluding emissions associated with use of bio-gas in the dryer, shall each not exceed the following limits:

Pollutant	Emission Factor	Emission Rate	
	Lb/million Btu	Lb/hr	Tons/yr
NO_x	0.068	0.12	0.53
CO	0.37	0.67	2.93
VOM	0.14	0.25	1.11

These limits are based on the maximum capacity of the bio-methanator flare (1.8 million Btu/hr) and standard emission factors for flare operation.

2.10.7 Testing Requirements

None

2.10.8 Monitoring Requirement

The bio-methanator flare shall be equipped with a monitor or other device to confirm presence of a flame if bio-gas is being sent to the flare

2.10.9 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the bio-methanator:

a. A file containing estimates of the maximum and typical rates of bio-gas generation, cubic feet and million Btu/hr, with supporting data and calculations.

b. A file containing an estimates of the typical rate of gas consumed by the pilot flame for the flare, if any.

c. The actual amount of bio-gas directed to the flare, if the Permittee estimates emissions from the bio-methanator for only bio-gas actually directed to the flare (rather than assuming that all bio-gas is flared).

d. Information for periods of time when the flare operated without a flame present in the flare, including amount of biogas exhausted through the flare.

e. Records on at least an annual basis of the VOM, CO and NO_x emissions from the Bio-methanator, with supporting documentation and calculations.

2.10.10 Reporting Requirements

a. The Permittee shall promptly notify the Illinois EPA of any deviations from the requirements of this permit for the bio-methanator as follows. These notifications shall include the information specified by Condition 3.5.

i. If the bio-methanator is damaged so there is a deviation from an applicable requirements that is not repaired or otherwise corrected within 12 hours, the Permittee shall then immediately notify the Illinois EPA.

ii. The deviations addressed above and all other deviations shall be reported with the quarterly compliance report.

2.10.11 Compliance Procedures

Compliance with Condition 2.10.6 shall be based on the records required by Condition 2.10.9 and the use of appropriate emission factors.

2.11 Cooling Tower

2.11.1 Description

A non-contact cooling tower is used to support the heat exchangers used to cool process streams and to condense surplus steam being returned to boilers.

2.11.2 List of Emission Units and Pollution Control Measures

Emission Unit Description	Control Measures
Cooling Tower	Drift Eliminator

2.11.3 Applicable Regulations

The cooling tower is subject to 35 IAC 212.321. (Refer to Condition 2.4.2(b).)

2.11.4 Non-Applicability of Regulations of Concern

None

2.11.5 Operational and Production Limits and Work Practices

None

2.11.6 Emission Limitations

Emissions of PM from the cooling tower shall not exceed 3.5 lb/hr and 15.33 tons per year.

2.11.7 Testing Requirements

None

2.11.8 Monitoring Requirement

None

2.11.9 Recordkeeping Requirements

The Permittee shall maintain records of the following information for the cooling tower:

a. The design data for the cooling tower, including water circulation rate (gal/min) and design loss rate of the drift eliminators (percent).

b. Total dissolved solids concentration of the water circulated in the cooling tower on at least a quarterly basis (ppm).

c. Records on at least an annual basis of the PM emissions from the cooling tower, with supporting documentation and calculations.

2.11.10 Reporting Requirements

a. The Permittee shall promptly notify the Illinois EPA of any deviations from the requirements of this permit for the cooling tower as follows. These notifications shall include the information specified by Condition 3.5.

i. If the cooling tower is damaged so there is a deviation from an applicable requirements that is not repaired or otherwise corrected within 24 hours, the Permittee shall then immediately notify the Illinois EPA.

ii. The deviations addressed above and all other deviations shall be reported with the quarterly compliance report.

2.11.11 Compliance Procedures

Compliance with Condition 2.11.6 shall be based on the records required by Condition 2.11.9 and the use of appropriate emission factors.

2.12 Roadways And Other Sources Of Fugitive Dust

2.12.1 Description

Fugitive dust/particulate matter emissions are generated by vehicle traffic on roadways and parking lots at the plant.

2.12.2 List of Emission Units and Pollution Control Measures

Emission Unit Description	Emission Control Measures
Vehicle Traffic, Paved and Unpaved Plant Roads and Parking Lots	Fugitive Dust Control Program

2.12.3 Applicable Regulations

a. The "affected operations" for the purpose of these unit-specific conditions are the operations described in Condition 2.12.1 and 2.12.2.

b. Visible emissions of fugitive particulate matter from any process, including material handling or storage activity, shall not be present beyond the property line of the source, pursuant to 35 IAC 212.301. (See also Condition 1.4(a)

2.12.4 Non-Applicability of Regulations of Concern

a. The affected operations are not subject to the requirements of 35 IAC 212.321 ("the process weight rate" rule) because of the disperse nature of these emissions units. [35 IAC 212.323]

2.12.5 Operational and Production Limits and Work Practices

a. The Permittee shall follow good air pollution control practices to minimize nuisance fugitive dust from plant roads, parking areas, and other open areas of the plant. These practices shall provide for pavement on all regularly traveled entrances and exits to the plant and treatment (sweeping, application of water, use of dust suppressant, etc., when necessary) of paved and unpaved roads and areas that are routinely subject to vehicle traffic.

b. i. The Permittee shall carry out control measures for fugitive dust in accordance with a written control program maintained by the Permittee. This program shall set forth the measures being implemented to demonstrate compliance with Conditions 2.12.3, 2.12.5(a) and 2.12.6, to control fugitive dust at each area of the plant with the potential to

generate significant quantities of fugitive dust. This program shall include: (i) A map or diagram showing the location of all fugitive emission units controlled, including the location, identification, length, and width of roadways, and volume and nature of expected traffic or other activity; (ii) estimated dust emissions control technique (e.g., water spray surfactant spray, water flushing, or sweeping); (iii) triggers for additional control, e.g., observation of extended dust plumes following passage of vehicles.

ii. The Permittee shall submit a copy of a revised fugitive dust control program to the Illinois EPA for review within 90 days of a request from the Illinois EPA for a revision to the program to address observed deficiencies in the control program.

Note: These limitations for fugitive dust control are established by the Agreed Order (Paragraph VIII.A.1(d)).

2.12.6 Emission Limitations

a. Emissions of PM from the affected operations shall not exceed 3.63 tons per year, as determined by use of appropriate USEPA methodology for estimating emissions of fugitive dust.

2.12.7 Testing Requirements

None

2.12.8 Monitoring Requirement

None

2.12.9 Recordkeeping Requirements

The Permittee shall maintain the following records with respect to the affected operations:

a. A file documenting assumptions about the quantity and nature of vehicle traffic at the plant as related to the grain receipts and loadout of ethanol and feed.

b. Records documenting implementation of the fugitive dust control program, including:

i. For each dust control treatment of a roadway: the name and location of the roadway controlled, the

type of treatment, identification of each truck used, application rate of water or other dust suppressant material, and total quantity of material applied;

ii. A log recording incidents when control measures were not carried out as scheduled or were not fully implemented and incidents when additional control measures were carried out, with description of each such incident and explanation. This log shall address any adjustments to the scheduling of control measures made by the Permittee due to weather conditions that either acted to reduce or increase the level of potential dust, such as precipitation or extended periods of dry weather.

c. Records on at least an annual basis of the PM emissions from the affected operations, with supporting documentation and calculations.

2.12.10 Reporting Requirements

a. The Permittee shall promptly notify the Illinois EPA of any deviations from the requirements of this permit for affected operations as follows. These notifications shall include the information specified by Condition 3.5.

i. If there is an exceedance of Condition 2.12.3(b) that lasts longer than one hour, the Permittee shall immediately notify the Illinois EPA.

ii. The deviations addressed above and all other deviations shall be reported with the quarterly compliance report.

b. With the Quarterly Emission Report, the Permittee shall submit the following information to the Illinois EPA:

Dates when control measures otherwise required by the dust control program were not carried out with explanation.

2.12.11 Compliance Procedures

Compliance with Condition 2.12.6 shall be based on the records required by Condition 2.12.9 and the use of appropriate USEPA methodology for estimating emissions of fugitive dust.

Section 3: General Conditions

3.1 Records for Public Inquiries

The Permittee shall maintain general records of all public inquiries or complaints directed to the plant regarding operations related to emissions, including date, time, individual (if identified), summary of discussion, summary of response, and involved plant personnel.

3.2 Emission Testing

a. i. The Permittee shall perform emission tests as requested by the Illinois EPA for an emission unit within 45 days of a written request by the Illinois.

ii. Notwithstanding the above, the deadline for emission testing may be extended by the Illinois EPA upon written request by the Permittee as needed to reasonably accommodate unforeseen difficulties in performing testing.

b. The following methods and procedures shall be used for testing of emissions, unless another method is approved by the USEPA or Illinois EPA. Refer to 40 CFR 60, Appendix A, for USEPA test methods.

Location of Sample Points	USEPA Method 1
Gas Flow and Velocity	USEPA Method 2
Flue Gas Weight	USEPA Method 3
Moisture	USEPA Method 4
Particulate Matter	USEPA Method 5
Volatile Organic Material	USEPA Method 18 and 25/25A*
Carbon Monoxide	USEPA Method 10
Nitrogen Oxides	USEPA Method 7, 7E, or 19
Opacity	USEPA Method 9
Hazardous Air Pollutants	USEPA Method 18*

* Testing shall also be conducted in accordance with industry-specific guidance from USEPA on testing VOM and HAP emissions at ethanol plants. Upon request by the Illinois EPA in conjunction with VOM testing, the Permittee shall conduct measurements of the level of odor contained in emissions, i.e., number of dilutions to detection.

c. i. A written test plan shall be submitted to the Compliance Section of the Division of Air Pollution Control for review at least 45 days prior to the scheduled date of testing. This plan shall describe the specific procedures for testing, including as a minimum:

A. The person(s) who will be performing sampling and analysis and their experience with similar tests.

B. The specific conditions under which testing will be performed, including a discussion of why these conditions will be representative of maximum emissions and any changes in the means or manner by which the operating parameters for the emission unit and any control equipment will be determined.

C. The specific determinations of emissions and operation that is intended to be made, including sampling and monitoring locations.

D. The test method(s) that will be used, with the specific analysis method, if the method can be used with different analysis methods.

ii. As part of the approval of a test plan, the Permittee may request and the Illinois EPA may approve a program to evaluate alternative levels of operating parameters for a control device, leading to testing at new values for operating parameters. In such case, the provisions of the approved test plan shall supersede the particular provisions of this permit with respect to the required level of operating parameters for the affected unit(s).

d. The Illinois EPA shall be notified prior to these tests to enable the Illinois EPA to observe these tests. Notification of the expected date of testing shall be submitted a minimum of 30 days prior to the expected date. Notification of the actual date and expected time of testing shall be submitted a minimum of 5 working days prior to the actual date of the test. The Illinois EPA may at its discretion accept notifications with shorter advance notice provided that the Illinois EPA will not accept such notifications if it interferes with the Illinois EPA's ability to observe testing.

e. Copies of the Final Reports for these tests shall be submitted to the Illinois EPA within 14 days after the test results are compiled and finalized but no later than 45 days after completion of sampling. The Final Report shall include as a minimum:

i. A summary of results

ii. General information

iii. Description of test method(s), including description of sampling points, sampling train, analysis equipment, and test schedule

iv. Data and calculations, including copies of all raw data sheets and records of laboratory analyses, sample calculations, and data on equipment calibration

f. Copies of emission test reports shall be retained for at least five years after the date that an emission test is superseded by a more recent test.

3.3 Operation or Maintenance Procedures

Where this permit requires the Permittee to operate or maintain emission units in accordance with written procedures, such procedures may incorporate procedures provided by the equipment supplier.

3.4 Inspection, Maintenance and Repair Logs

Inspection, maintenance and repair logs shall include the following information:

a. Identification of equipment, with date, time, responsible party and description of activity.

b. Description of any corrective actions or preventative measures taken as result of inspection.

3.5 Reporting of Deviations

a. Reports of deviations shall include the following information:

i. Identify the deviation, with date, time, duration and description.

ii. Describe the effect of the deviation on compliance, with an estimate of the excess emissions that accompanied the deviation, if any.

iii. Describe the probable cause of the deviation and any corrective actions or preventive measures taken.

b. Quarterly compliance report shall be submitted no later than 45 days after the preceding calendar quarter. This report shall also provide a listing of all deviations for which immediate or 30-day reporting was required, but need not include copies of the previously submitted information.

c. If there are no deviations during the calendar quarter, the Permittee shall still submit a compliance report, which report shall state that no deviations occurred during the reporting period.

If you have any questions on this permit, please call Minesh Patel at 217/782-2113.

Donald E. Sutton, P.E.
Manager, Permit Section
Division of Air Pollution Control

DES:MVP:psj

cc: Region 2

ATTACHMENT A

Listing of Identified Emission Units and Process Equipment

Operation	Emission Unit/Process Equipment	Emission Control Equipment
Boiler	Boiler 1	Low NO_x Burners
	Boiler 2	Low NO_x Burners
Turbine	Turbine	Low NO_x Burners
Corn Receiving	Grain Receiving Dump Pit	----
Grain Handling and Processing	Grain Dump Pit Discharge Conveyor	Spot Filter baghouse (FX-150)
	Scalper Discharge Bucket Elevator	Spot Filter baghouse (FX-157)
	Grind Bin Bucket Elevator	Spot Filter baghouse (FX-147)
	Grain cleaning scalper	Spot Filter baghouse (FX-153)
Grain Milling	Hammermill Discharge Conveyors	Spot Filter baghouses (FX-190 and FX-195)
Cooking and Liquefaction	CIP Caustic Screen	----
	Inline Cooling System	
	Flash Tank	
	Liquefaction Tanks	----
	Slurry Tank	Distillation Scrubber (CE0003) or Afterburner
	Ethanol Regeneration Tank	
	Yeast Tank	
Fermentation	Fermentation Tanks	Fermentation Scrubber (CE0002)
	Beer Well	
Distillation	Beer Column	Distillation Scrubber (CE0003) or Afterburner
	Side Stripper	
	Rectifier Column	
	190 Proof Condenser	
	190 Proof Reflux Tank	
	Molecular Sieve	
	Mash Screen	
Solids Separation	Centrifuges	Afterburner
	Evaporators	
	Syrup Tank	
	Thin Stillage Tank	
	Whole Stillage Tank	
	Bio-Methanator Feed Tank	
Feed Drying and Cooling	Dryer	Cyclones, Venturi Scrubber, Afterburner
	Cooler (Baghouse)	
Feed Storage and Loadout	Dry Feed Storage	
	Dry Feed Transfer Conveyor	Spot Filter baghouse (FX-830)
	Dry Feed Loadout	
	Wet Feed Storage and Loadout	

Operation	Emission Unit/Process Equipment	Emission Control Equipment
Main Storage Tanks	190 Proof Day Tank	Internal Floating Roof with Primary and Secondary Seals
	200 Proof Day Tank	Internal Floating Roof with Primary and Secondary Seals
	Denaturant Tank	Internal Floating Roof with Primary and Secondary Seals
	Denatured Ethanol Tank	Internal Floating Roof with Primary and Secondary Seals
Ethanol Loadout	Truck Loading Rack	Flare
Process Components (Valves, Flanges, Pumps, Seals, etc.)	Processing of Organic Material through the Plant's Piping System	Leak Detection and Repair Program
Miscellaneous Processes	Bio-Methanator	Flare
	Cooling Tower	Drift Eliminator
Fugitive Dust	Plant Roads and Parking Areas	Paving and Sweeping

TABLE I-A

Annual Emission Limitations (Tons/Year)

Emission Unit(s)	NO_x	CO	VOM	PM/PM_{10}	SO_2	Acet.	Other HAP	Total HAP	Ind. HAP
Boiler 1	12.78	7.67	0.73	3.68	0.16	0.025	0.11	0.135	0.073
Boiler 2	12.78	7.67	0.73	3.68	0.16	0.025	0.11	0.135	0.073
Turbine	25.84	30.05	0.88	2.62	0.79	0.05	0.13	0.18	0.088
Grain Receiving & Handling	---	---	---	9.96	---	---	---	---	---
Grain Cleaning & Milling	---	---	---	3.02	---	---	---	---	---
Fermentation (Scrubber)	---	---	40.50	0.44	---	3.16	0.32	3.48	0.21
Distillation (Scrubber)	---	---	9.58	0.44	---	3.64	0.36	4.00	0.24
Fermentation/Distillation/Cooking and Liquefaction/Solid Separation (Other)	---	---	4.40	0.44	---	0.10	0.66	0.76	0.44
Centrifuges	---	---	2.10	---	---	0.20	---	0.20	---
Feed Dryer/Cooler/Afterburner	38.56	41.61	17.52	32.85	32.85	2.20	9.65	11.85	*6.35*
Dry Feed Transfer Conveyor	---	---	---	0.35	---	---	---	---	---
Dry Feed Loadout	---	---	---	6.62	---	---	---	---	---
Wet Cake Transfer & Loadout	---	---	10.00	0.44	---	0.20	1.50	1.7	1.00
Ethanol & Denaturant Tanks	---	---	2.25	---	---	0.10	0.34	0.44	0.225
Ethanol Loadout Rack	1.79	0.72	2.13	1.00	1.0	0.10	0.32	0.42	0.213
Component Leaks	---	---	5.00	---	---	0.05	0.75	0.80	0.50
Bio-Methanator	0.53	2.93	1.11	1.00	1.00	0.05	0.17	0.22	0.111
Cooling Tower	---	---	---	15.33	---	---	---	---	---
Plant Roads / Parking Areas	---	---	---	3.63	---	---	---	---	---
Totals	92.3	90.7	96.9	85.5	36.0	9.90	14.42	24.32	9.523

TABLE I-B

Annual Emission Limitations (Tons/Year)

Emission Unit(s)	NO_x	CO	VOM	PM/PM_{10}	SO_2	Acet.	Other HAP	Total HAP	Ind. HAP
Boiler 1	12.78	7.67	0.73	3.68	0.16	0.025	0.11	0.135	0.073
Boiler 2	12.78	7.67	0.73	3.68	0.16	0.025	0.11	0.135	0.073
Turbine	25.84	30.05	0.88	2.62	0.79	0.05	0.13	0.18	0.088
Grain Receiving & Handling	---	---	---	9.96	---	---	---	---	---
Grain Cleaning & Hammermill	---	---	---	3.02	---	---	---	---	---
Fermentation (Scrubber)	---	---	40.50	0.44	---	3.16	0.32	3.48	*0.21*
Distillation (Scrubber)	---	---	9.58	0.44	---	3.64	0.36	4.00	*0.24*
Fermentation/Distillation/Cooking and Liquefaction/Solid Separation (Other)	---	---	4.40	0.44	---	0.10	0.66	0.76	*0.44*
Centrifuges	---	---	2.10	---	---	0.20	---	0.2	---
Dry Feed Transfer Conveyor	---	---	---	0.35	---	---	---	---	---
Feed Dryer	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dry Feed Loadout	---	---	---	6.62	---	----	---	---	---
Wet Cake Transfer Operation	---	---	10.00	0.44	---	0.20	1.5	1.7	1.00
Ethanol & Denaturant St. Tanks	---	---	2.25	---	---	0.10	0.34	0.44	0.225
Ethanol Loading Rack	1.79	0.72	2.13	1.00	1.00	0.10	0.32	0.42	0.213
Component Leaks	---	---	5.00	---	---	0.05	0.75	0.80	0.5
Bio-Methanator	0.53	2.93	1.11	1.00	1.00	0.05	0.17	0.22	0.111
Cooling Tower	---	---	---	15.33	---	---	---	---	---
Plant Roads/Parking Areas	---	---	---	3.63	---	---	---	---	---
Total	53.7	49.0	79.4	52.7	3.20	7.7	4.8	12.5	3.2

MVP:psj