217/782-2113

CONSTRUCTION PERMIT -– NSPS SOURCE

PERMITTEE

Illini Ethanol, LLC
Attn: Reg Ankrom
WCU Tower
510 Main Street, Suite 500
Quincy, Illinois 62301

Application No.: 06060073 I.D. No.: 019814AAA
Applicant's Designation: Date Received: June 30, 2006
Subject: Fuel Ethanol Plant
Date Issued: January 18, 2007
Location: NCR 2700E/ECR 2200N, Royal, Champaign County

Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source(s) and/or air pollution control equipment consisting of a fuel ethanol plant with a nominal design capacity of 110 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

1.0 Introduction

1.1 Plant-Wide Operating Limitations

a. The amount of grain processed at this plant shall not exceed 100,000 tons/month and 1,100,000 tons/year.

b. Ethanol production from the plant, determined as denatured ethanol shipped from the loading rack, shall not exceed 11 million gallons/month and 110 million gallons/year.

c. The total feed production of the plant, expressed in terms of dry feed or dry feed equivalent, shall not exceed 32,200 tons/month and 354,000 tons/year.

d. Natural gas usage by the plant shall not exceed 385 million cubic feet per month and 4575 million cubic feet per year.

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

1.2 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.

b. 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 Table I for limits for acetaldehyde emissions.

1.3 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.

1.4 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 monitoring devices and instrumentation in accordance with good monitoring practices, following the manufacturer's recommended operation and maintenance procedures or such other procedures as otherwise necessary to assure reliable operation of such devices.

d. Install stacks for the principal emission units designed with a height and exhaust velocity that satisfies good engineering practices.

1.5

a. i. If the existing grain elevator located near the site of the proposed plant, United Feeds, Inc., ID No. 019070AAF, would be a support facility for the plant (as further explained in Attachment B), during the development of the plant, the Permittee shall take appropriate measures to address activities at the adjacent grain elevator, (as also addressed in Attachment B) as necessary to assure that:

A. The plant does not constitute construction of a major new source for purposes of PSD when considered in combination with the operation and emissions of the elevator; and

B. The consequences of the plant under applicable air pollution control regulations on future emission control requirements for and permitting of the grain elevator are identified and communicated to the operator of the grain elevator.

ii. If necessary actions, as required above, are not taken by the Permittee prior to the initial startup of the plant, the plant shall not receive more than 2.2 million bushels of grain per year from the adjacent grain elevator (so that the elevator does not act as a support facility to the plant) until such actions are taken.

Note: This permit is issued based on the existing United Feeds, Inc. elevator not being a major source for purposes of PSD. This is because the elevator is currently limited by Operating Permit 019070AAF to a throughput of no more than 8,000,000 bushels of grain per year with annual PM emissions of no more than 24.1 TPY. In 2003, 2004 and 2005, the elevator only handled 4.53, 6.5, and 6.02 million bushels, with reported PM emissions of 11.23, 12.83, and 13.58 tons, respectively. United Feeds, Inc. must obtain new and/or revised permits from the Illinois EPA for any

increases in these limitations and for construction of new grain handling operations or modification of the existing grain handling operations at the elevator, as would likely be needed for the elevator to act as a support facility for the plant.

b. If the nearby elevator will be in a support facility for the plant and certain grain handling activities for the plant will be conducted at that elevator, the Permittee shall apply for and obtain a revised permit from the Illinois EPA to account for the activities that are performed at the grain elevator. This revised permit will remove emission units that will not be constructed at the plant or whose capacity has been reduced, as activities are performed at the nearby elevator. The revised permit will also reduce permitted emissions of the plant as certain emissions from grain handling operations will occur at the nearby elevator and be addressed in the permit(s) for the grain elevator. This revised construction permit shall be obtained prior to completion of construction of the plant

1.6 Records for Required Monitoring Systems and Instrumentation

The Permittee shall keep records of the data measured by required monitoring systems and instrumentation. Unless otherwise provided in a particular condition of this permit, the following requirements shall apply to such recordkeeping:

a. For required monitoring systems, data shall be automatically recorded by a central data system, dedicated data logging system, chart recorder or other data recording device. If an electronic data logging system is used, the recorded data shall be the hourly average value of the particular parameter for each hour. During periods when the automatic recording device is out of service, data shall be recorded at least once per shift for periods when the associated emission unit(s) is in service.

b. For required instrumentation, the measured data shall be recorded manually at least once per shift, with data and time both recorded, for periods when the associated emission unit(s) are in service, provided however that if data from an instrument is recorded automatically, the above provisions for recording of data from monitoring systems shall apply.

1.7 Retention and Availability of Records

All records, including logs and procedures, required by this permit shall be retained by the Permittee at a 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.

1.8 Plant-Wide Reporting

a. The Permittee shall submit Quarterly Compliance Reports as specified in the unit specific conditions of this permit and Condition 3.4(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 and production limitations in Condition 1.1 or the annual emission limitations set for the plant. Any such notification shall include the information specified in Condition 3.4.

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.

1.9 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
2009 Mall Street
Collinsville, Illinois 62234

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.

1.10 Other Requirements

a. 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.

b. 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.

Section 2: Unit Specific Conditions

2.1 Package Boilers

2.1.1 Description

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

2.1.2 List of Emission Units and Pollution Control Equipment

Operation	Emission Unit/Process Equipment	Emission Control Equipment
Boilers	Two Natural Gas Fired Boilers (150 Million Btu/Hr, Each)	Low-NO_x burner

2.1.3 Applicability Provisions and Applicable Regulations

a. The “affected boilers” for the purpose of these unit-specific conditions, are the boilers described in Conditions 2.1.1 and 2.1.2

b. The affected boilers are subject to the federal Standards of Performance (NSPS) for Small Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60, Subpart Db 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.

   The emission of nitrogen oxides (NO_x) from each boiler, including periods of startup, malfunction, and breakdown, shall not exceed 0.1 lb/mmBtu, on a 30-day average, in accordance with the provisions of the NSPS, 40 CFR 60.44b(a)(1)(i), for low heat release steam generating units.

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

d. The emission of smoke or other particulate matter from the affected boilers 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)]

e. At all times, the Permittee shall maintain and operate the affected 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

a. There are no applicable NSPS requirements for particulate matter or sulfur dioxide pursuant to 40 CFR 60.43b or 60.42b, respectively, as the affected boilers are only firing natural gas.

b. This permit is issued based on the affected boilers not being subject to 40 CFR 63, Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters based upon plant being not major as defined in 40 CFR 63.2. Note: If the plant were a major source for emissions of hazardous air pollutants, the affected boilers would be subject to applicable requirements of the NESHAP.

c. This permit is issued based on the affected boilers not being subject to 35 IAC 217, Subpart U, NOx Control and Trading Program for Specified NOx Generating Units, because each affected boiler has maximum design heat input that is less than 250 mmBtu/hr.

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 design heat input capacity of each affected boiler shall not exceed 150 million Btu/hour.

c. The affected boilers shall be equipped, operated, and maintained with low NO_x combustors for natural gas firing.

d. At all times, the Permittee shall maintain and operate emission units that are subject to the NSPS, 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).

2.1.6 Emission Limitations

a. 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 (150 million Btu/hour, each), the emission factors based on the manufacturer’s guaranteed data for NO_x (0.04 lb/mmBtu) and CO (0.035 lb/mmBtu) and standard emission factor for other pollutants and continuous operation:

	Emissions		
	Each Boilers		Combined
Pollutant	(Lb/Hour)	(Tons/Year)	(Tons/Year)
NO_x	6.0*	26.3	52.6
CO	5.30	23.0	46.0
VOM	0.8	3.6	7.2
PM	1.1	5.0	10.0
SO_2	0.1	0.4	0.8

* Compliance with this limit shall be determined as a 30-day average, using the applicable compliance methodology of the NSPS.

b. i. The acetaldehyde emissions from each affected boiler shall not exceed 0.001 lb/hour and 0.004 tons/year.

ii. The emissions of individual HAPs, other than acetaldehyde, from each affected boiler shall not exceed 0.27 lb/hour and 1.19 tons/year.

iii. The emissions of total HAPs, other than acetaldehyde, from each affected boiler not exceed 0.28 lb/hour and 1.20 tons/year.

2.1.7 Testing Requirements

The Permittee shall perform emission tests for each affected boiler as specified in Condition 3.1.

2.1.8 Monitoring Requirements

a. The Permittee shall install, maintain, and operate a continuous monitoring system on the exhaust of each affected boiler for NO_x emissions. This system shall be operated during all periods of operation of affected boiler except for continuous monitoring system breakdowns and repairs. Data is to be recorded during calibration checks, and zero and span adjustment. [40 CFR 60.48b]

b. The Permittee shall install, calibrate, operate, and maintain a CO continuous monitoring system on the exhaust of each affected boiler within one year after the initial emission testing required by this permit unless this testing or further testing conducted by the Permittee demonstrates that the unit normally complies by a margin of at least 20 percent with the emission limits in this permit or the Illinois EPA approves further time for the Permittee to achieve this level of performance.

c. i. These monitoring systems shall be operated during all periods of operation of the combustion unit

except for continuous monitoring system maintenance, breakdowns and repairs. The Permittee shall comply with applicable requirements of the NSPS for continuous emission monitoring.

ii. The Permittee shall maintain records for the continuous monitoring systems, including recorded emission concentrations and records of maintenance, calibration, and operational activity associated with the system.

iii. The Permittee shall submit quarterly monitoring reports to the Illinois EPA for the NO_x emission monitoring systems (and CO emissions monitoring systems, if required) in accordance with the applicable reporting requirements of the NSPS for continuous monitoring systems.

d. Following the shakedown period, as provided by 40 CFR 60.48b (g) (2) and 60.49b (c) and (j), NO_x continuous emission monitoring on the affected boilers may be discontinued if a parametric monitoring plan is approved by the Illinois EPA in accordance with applicable provisions of the NSPS in a revised construction permit or the operating permit for the plant.

e. The requirement for a CO monitoring system may be revised or waived in the operating permit for the source if the Illinois EPA determines that compliance with requirements for CO emissions is not facilitated to a significant degree by such monitoring.

2.1.9 Recordkeeping Requirements

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

a. A file containing the design heat input capacity of each boiler (million Btu/hour), with supporting documentation.

b. Records required to be kept for each operating day, pursuant to the NSPS, 40 CFR 60, Subpart Db for each affected boiler, including the following when continuous emissions monitoring (rather than parametric monitoring) if required for NO_x emissions:

i. Calendar date. [40 CFR 60.49b(g)(1)]

ii. Total natural gas usage for the affected boilers (ft^3/day). [40 CFR 60.49b(d)]

iii. The average hourly NO_x emission rates (expressed in lb/million Btu heat input) measured or if parametric monitoring is approved, records shall be kept of NO_x emissions as predicted by parametric monitoring. [40 CFR 60.49b(g)(2)]

iv. The 30-day average NO_x emission rates (lb/million Btu heat input) calculated at the end of each operating date from the measured or if parametric monitoring is approved, records shall be kept of NO_x emissions as predicted by parametric monitoring, hourly NO_x emission rates for the preceding 30 operating days. [40 CFR 60.49b(g)(3)]

v. Identification of the operating date when the calculated 30-day average NO_x emission rates are in excess of the NO_x emissions standards under 40 CFR 60.44b, with the reasons for such excess emissions as well as a description of corrective actions taken. [40 CFR 60.49b(g)(4)]

vi. Identification of the operating days for which pollutant data have not been obtained, including reasons for not obtaining sufficient and a description of corrective actions taken. [40 CFR 60.49b(g)(5)]

vii. Identification of the times when emission data have been excluded from the calculation of average emission rates and the reasons for excluding data. [40 CFR 60.49b(g)(7)]

viii. Identification of the times when the pollutant concentration exceeds full span of the continuous monitoring system. [40 CFR 60.49b(g)(8)]

ix. Description of any modifications to the continuous monitoring system that could affect the ability of the continuous monitoring system to comply with Performance Specification 2 or 3. [40 CFR 60.49b(g)(9)]

x. Results of daily CEMS drift tests and quarterly accuracy assessments as required under Appendix F, Procedure 1 of 40 CFR 60. [40 CFR 60.49b(g)(10)]

c. Calculations of the annual capacity factor, determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar quarter, per quarter. [40 CFR 60.49b(d)]

d. Records for the operating hours of each affected boiler (hours/month and hours/year).

e. The following logs for each affected boiler:

i. An operating log, in accordance with Condition 3.3(c).

ii. An inspection, maintenance and repair log, in accordance with Condition 3.3(d).

f. The following records related to emissions:

i. Documentation for the emission factor(s) and maximum hourly emission rates used by the Permittee to determine CO, PM, SO_2, VOM and HAP emissions of the affected boilers.

ii. Records of all other data, not addressed above, used or relied upon by the Permittee to determine emissions, including hourly NO_x and CO emission data for the affected boilers as determined by continuous emission monitoring, if applicable.

iii. Records for each boiler of the emissions of NO_x, lbs/hour, 30-day average, on a daily bases.

iv. Records for each boiler any hour (or for NO_x, any day) when emissions exceeded the applicable limit.

v. Records of the NO_x, CO, PM, SO_2, VOM, and HAP emissions from the affected boilers (tons/month and tons/year), based on operating data for the boilers and the emission monitoring data (NO_x), emission testing date (CO) or appropriate emission factors, with supporting calculations. These records shall be compiled on at least a quarterly basis.

2.1.10 Reporting Requirements

a. The Permittee shall fulfill all applicable notification and reporting requirements of the NSPS for each affected boiler including:

i. Written notification of commencement of construction, no later than 30 days after such date. [40 CFR 60.7(a)(1)]

ii. Written notification of the actual date of initial startup, within 15 days after such date. [40 CFR 60.7(a)(3)]

b. The Permittee shall promptly notify the Illinois EPA of any deviations from the requirements of this permit for each affected boiler as follows. These reports shall include the information specified in Condition 3.4.

i. For NO_x emissions from the affected boilers, excess emissions are defined as any calculated 30-day rolling average NO_x emission rate, as determined under 40 CFR 60.46b(e), that exceeds either (1) the applicable NSPS standard, or (2) the hourly NO_x limitation in Condition 2.1.6(b), based on the average hourly firing rate of the boiler during the 30-day period.

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 shall be reported in the quarterly compliance report.

2.2 Diesel Generator

2.2.1 Description

A diesel-fired engine generator would be used to supply electricity to the fire water pump during emergency purposes when the facility experiences a loss of electrical service from the public utility company. The unit would routinely operate for less than an hour per month, to confirm that unit is fully operational and would be available if needed for emergency purposes.

2.2.2 List of Emission Units and Pollution Control Equipment

Operation	Emission Unit/Process Equipment	Emission Control Equipment
Emergency Generator	Diesel fired Emergency Generator (208 hp)	----

2.2.3 Applicability Provisions and Applicable Regulations

a. The emissions of smoke or other particulate matter from emergency generator shall no have an opacity greater the 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)].

2.2.4 Non-Applicability of Regulations of Concern

a. This permit is issued based on the emergency generator not being subject to 35 IAC 212.321, Emission of Particulate Matter from Process Emission Units, because due to the nature of this process, such rules cannot reasonably be applied.

2.2.5 Operational and Production Limits and Work Practices

a. Distillate fuel oil shall be the only fuel fired in the emergency generator.

b. Emergency generator shall not operate more than 300 hours per year.

c. The sulfur content of the fuel fired in the emergency generator shall not exceed 0.05% by weight.

2.2.6 Emission Limitations

a. Emissions from the emergency generator shall not exceed the following limits. These limits are based on the

information provided in the permit application including the maximum capacity of the engine (208 hp), standard emission factors and maximum operation (300 hours per year).

Pollutant	Emissions	
	(Lbs/Hour)	(Tons/Year)
NO_x	6.45	0.97
CO	1.39	0.21
VOM	0.51	0.1
PM	0.46	0.1
SO_2	0.43	0.1

b. i. The acetaldehyde emissions of emergency generator shall not exceed 0.001 tons/year.

ii. The emissions of individual HAPs, other than acetaldehyde, from emergency generator shall not exceed 0.001 tons/year.

iii. The emissions of total HAPs, other than acetaldehyde, from emergency generator shall not exceed 0.003 tons/year.

2.2.7 Testing Requirements

Upon written request by the Illinois EPA, the Permittee shall perform emission tests for the emergency generator in accordance with the methods and procedures specified in Condition 3.1 for the pollutants specified in the request.

2.2.8 Monitoring Requirements

None

2.2.9 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the emergency generator:

a. A file containing:

i. Applicable emission factors for the emergency generator, with supporting documentation, including a copy of the manufacturer’s specifications or guarantee for emissions from the emergency generator.

ii. The maximum hourly emission rates from the emergency generator, with supporting calculations.

b. Records for the sulfur content of the fuel used in the emergency generator (percent by weight), which shall be recorded for each shipment of fuel delivered to the plant.

c. Records of fuel usage for the emergency generator, gallons/month and gallons/year;

d. Records of operating hours for the emergency generator (hours/month and hours/year).

e. The following log(s) or other records for the emergency generator:

   i. An operating log, in accordance with Condition 3.3(c).

   ii. An inspection, maintenance and repair log, in accordance with Condition 3.3(d).

f. Records for monthly and annual NO_x, CO, PM, SO_2, and VOM emissions from the emergency generator based on fuel consumption and other operating data, and appropriate emission factors, with supporting calculations.

2.2.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA of any deviations from the requirements of this permit for the emergency generator as follows. These reports shall include the information specified in Condition 3.4.

a. The use of fuel with a sulfur content in excess of the limit specified in this permit with the length of time this fuel was used and the effect on the emission of SO_2.

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

2.3 Grain Receiving, Handling, and Milling

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 total storage capacity of the elevator is 1.36 million bushels. 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 slurry tanks for enzymatic processing.

Emissions of particulate matter (PM) from the grain elevator would be controlled by design of equipment and control by filters or baghouses. In particular, the dump pit for receiving grain by truck would be “aspirated,” to collect dust laden air generated by the fall of grain into the dump pit.

The plant is currently considering two options for receiving grain. The first option would include the receipt of grain from various grain elevators and local farmers. The second option would include the receipt of potentially 100 % of the grain from the existing (United Feeds, Inc., ID No. 019070AAF) grain elevator located approximately one-forth of a mile from the plant. This permit accommodates either option, as generally provided by Condition 1.5.

2.3.2 List of Emission Units and Pollution Control Equipment

Operation	Emission Unit/Process Equipment	Emission Control Equipment
Grain Handling	Truck Receiving and Conveying System	Baghouse 1 and Pneumatic Filter Receiver
	Rail Receiving and Conveying system	
	Elevators	
	Storage Silos	
	Cleaner	
	Grain Surge Bin	
Grain Milling	Hammermill Feed	----
	Hammermills	Bin Vent Filters
	Hammermill Conveyors	
	Hammermill transfer/conveyor/elevator	Baghouse 1 pneumatic filter receiver

2.3.3 Applicability Provisions and Applicable Regulations

a. i. The “affected grain handling operations” for the purpose of these unit-specific conditions, are the

grain handling operation described in Conditions 2.3.1 and 2.3.2.

ii. The “affected grain milling operations” for the purpose of these unit-specific conditions, are the grain milling operation described in Conditions 2.3.1 and 2.3.2.

b. The affected grain handling operations are subject to 35 IAC 212, Subpart S: Agriculture and shall be operated to comply with all applicable requirements of Subpart S. [See Conditions 2.3.4(b) and 2.3.5(a) and (e)]

c. The affected grain milling operations 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 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).

2.3.4 Non-Applicability of Regulations of Concern

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

b. This permit is issued based on the affected grain handling operations at the plant potentially being exempt from the requirements of 35 IAC 212.462, as provided by Section 9 of the Environmental Protection Act. In particular, if the proposed operations, when constructed and subsequently operated meet the criteria for such exemption that are set forth in Section 9 of the Act, the operation would be exempt from 35 IAC 212.462.

c. This permit is issued based on the affected grain handling 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 2,500,000 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 grain handling operations, 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. Grain from “straight trucks” (as distinguished from hopper bottom trucks) shall only be received if the grain receiving operation for such trucks is equipped with quick closing doors and an aspirated dump pit.

c. The Permittee shall operate the baghouses for 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 for the affected units 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 manufacturer's 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.

e. i. If initial emission testing of a baghouse for affected units shows filterable PM emissions greater than 0.0045 gr/scf, the Permittee shall implement a Control Improvement Program for the baghouse with the objective of meeting this value.

   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.

   iii. The Control Improvement Program shall be completed in six months.

   iv. Following completion of the Control Improvement Program, the Permittee shall again test PM emissions from the baghouse in 60 days, in accordance with Condition 3.3-1.

f. If the plant or an individual affected grain handling operation ceases to meet the criteria for exemption from the requirements of 35 IAC 212.462, either all affected operations or the particular affected operation, as appropriate, shall comply with applicable requirements of 35 IAC 212.246, as set forth below. For example, the grain receiving operation shall comply with applicable requirements of 35 IAC 212.462(b) (Condition 2.3.5((e)(ii)), 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 and 35 IAC 212.462]

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; and

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; and

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; or

D. Any equivalent method, technique, system, or combination thereof adequate to achieve, at a minimum, a particulate matter emission reduction equal to the reduction which could

be achieved by compliance with 35 IAC 212.462(b)(2).

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.

2.3.6 Emission Limitations

a. i. Fabric filters (baghouses) on affected units shall comply with an emission limit of 0.005 grain per standard cubic foot (gr/scf).

ii. There shall be no visible emissions of fugitive emission, as defined by 40 CFR 60.301, from the affected grain handling operation, other than the affected grain receiving operation, which shall not exhibit opacity greater than 5.0 percent, 6-minute average.

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

	Emissions	
Operation	(Lbs/Hr)	(Tons/Yr)
Grain Receiving and Handling	1.71	7.51
Pneumatic System Filter Receiver	0.02	0.10
Grain Milling	1.3	5.63

ii. The above limits do not account for uncaptured particulate matter emissions from the affected grain handling operations, which shall not exceed 1.93 tons/year.

2.3.7 Testing Requirements

a. The Permittee shall perform emission tests for affected operations as specified in Condition 3.1.

b. Upon written request by the Illinois EPA, the Permittee shall perform opacity observation in accordance with the methods and procedures specified by Condition 3.1-2 for affected grain handling operations as specified in such request.

2.3.8 Instrumentation Requirements

The Permittee shall install, operate, and maintain instrumentation on each baghouse for the affected operations to measure pressure drop across the baghouse.

2.3.9 Recordkeeping Requirements

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

a. A file containing 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. A file containing:

i. A copy of the manufacturer’s specifications and recommended operating and maintenance procedures for each baghouse.

ii. The range of pressure drop within which each baghouse will be operated, as required by Condition 2.3.5(c), if not the range recommended by the manufacturer, with explanation and supporting documentation.

c. 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).

d. Records of the differential pressure of each baghouse at least once per operating day.

e. The following logs for the affected operations and associated air pollution control equipment:

i. Operating log(s) in accordance with Condition 3.3(c).

ii. Inspection, maintenance and repair log(s) in accordance with Condition 3.3(d), which also specifically identify performance of the inspections required by Condition 2.3.5(d)(ii).

f. The following records related to emissions:

i. Documentation for the PM emission factor(s) and maximum hourly emission rates used by the Permittee to determine emissions of the various affected operations.

ii. Records of all other data used or relied upon by the Permittee to determine the PM emissions of the affected operations.

iii. PM emissions from the affected grain handling and hammermilling 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 grain handling and hammermilling operations as follows. These notifications shall include the information specified by Condition 3.4.

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.

2.4 Mash Preparation and 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 fermentation 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. In the future, the Permittee would like to sell the scrubbed vent stream to a CO_2 processing plant that would be constructed adjacent to the complex, which would operate under long-term contract with the Permittee, to purchase and then process the CO_2 for sale. However, the permit establishes provisions that would allow the venting of the exhaust from the fermentation scrubber to the regenerative thermal oxidizers (oxidizers (1 and 2)) without routing it through a CO_2 plant. The wastewater generated from the scrubbing process is routed back to the cook water tank for reuse.

The emissions from some of the mash preparation (mixer, slurry tanks, cook tubes, yeast tanks, fermenters and beer well), are routed to the CO_2 scrubber prior to being controlled by oxidizers (1 and 2) (See Condition 2.6). Other mash preparation units (liquefaction tanks, cook water tank, and chemical tanks) and the mash screen in the fermentation area, which have only trace levels of emissions in their exhaust, would not be controlled.

2.4.2 List of Emission Units and Pollution Control Equipment

Operation	Emission Unit/Process Equipment	Emission Control Equipment
Mash Preparation	Cook Water Tank	----
	Mixer	Fermentation Scrubber and Oxidizers (1-2)
	Flash Condenser, Slurry Blender, Slurry Tanks (1-2, Yeast Tanks (1-2)	
	Liquifaction Tanks (1-2)	--------
	Flash Tank, Cook Tube	Vents to Flash Condenser
	Misc. Chemical Tanks	----

Operation	Emission Unit/Process Equipment	Emission Control Equipment
Fermentation	Fermenters (1-7)	Fermentation Scrubber and Oxidizers (1 and 2)
	Beer Well	
	Degasser	Oxidizers (1-2)

2.4.3 Applicability Provisions and Applicable Regulations

a. The “affected units” for the purpose of these unit specific conditions are the emission units described in Conditions 2.4.1 and 2.4.2.

b. The affected units are subject to 35 IAC 212.321. [Refer to Condition 2.3.3(c)]

c. The affected units are subject to 35 IAC 215.301, which provides that no person shall cause or allow the discharge of more than 8 lbs/hr of organic material from an emission source, unless either emissions are controlled by at least 85 percent, as provided in 35 IAC 215.302, or the emissions do not qualify as photochemically reactive material, as defined by 35 IAC 211.4690 and do not contribute to an odor nuisance.

2.4.4 Non-Applicability of Regulations of Concern

a. This permit is issued based on the affected fermentation units 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.

2.4.5 Operational and Production Limits and Work Practices

a. i. The key operating parameters of the fermentation scrubber, as specified below, 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: °F, hourly average.

C. Maximum scrubber exhaust gas outlet temperature: °F, hourly average.

ii. If the differential pressure across the fermentation scrubber is outside of the normal operating range as defined by the Permittee for a period of 4 hours, the Permittee shall inspect the fermentation scrubber within 24 hours and initiate appropriate corrective action to restore the pressure drop of the fermentation scrubber to the normal range.

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

b. i. If initial emission testing of the fermentation scrubber shows compliance with requirements for VOM by less than a 10 percent margin, the Permittee shall implement a Control Improvement Program (Program) for the scrubber with the objective of achieving compliance by a margin of at least 10 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.

iii. A. The Program shall be completed in one year.

B. Following completion of the Program, the Permittee shall again test VOM emissions from the scrubber in 60 days, in accordance with Condition 3.3-1.

2.4.6 Emission Limitations

a. The VOM emissions from the affected units that are to be controlled, i.e., the fermentation tanks and beer well, shall not exceed 1162 lbs/million gallons ethanol based on the equivalent production rate of the fermentation process or be controlled by at least 98.5 percent by weight prior to control.

b. This permit is issued based on no emissions from the operation of the affected units other than emissions that occur through the oxidizers, as addressed in Condition 2.6.6(a); emissions from miscellaneous units, as addressed by Condition 2.4.6(c); or emissions attributable to leaking components, as addressed in Condition 2.9.6.

c. The VOM emissions from miscellaneous units (e.g., liquefaction tanks, cook water tank, thin stillage tank, whole stillage tank, and syrup tank) that are not

controlled shall not exceed 0.8 tons/year, total. Compliance with this limit shall be determined based on annual basis.

d. i. The acetaldehyde emissions of the miscellaneous units shall not exceed 0.07 tons/year.

ii. The emissions of individual HAPs, other than acetaldehyde, from the miscellaneous units shall not exceed 0.11 tons/year.

iii. The emissions of total HAPs, other than acetaldehyde from the miscellaneous units shall not exceed 0.2 tons/year.

2.4.7 Testing Requirements

a. The Permittee shall perform emission tests for affected emission units as specified in Condition 3.1.

b. Upon written request by the Illinois EPA, the Permittee shall promptly perform emission tests for miscellaneous affected units in accordance with the methods and procedures specified in Condition 3.1 for the units and pollutants specified in the request.

2.4.8 Monitoring Requirements

a. 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, rate of reagent addition to the scrubbant, 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 instantaneous data every 15 minutes and an average hourly basis. The Permittee shall maintain logs for the maintenance and repair of these devices.

b. These monitoring devices shall record both average hourly data and discrete data at least every fifteen minutes. 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 units:

a. A file containing:

i. The values of the following operating parameters of the fermentation operation when operating normally, with supporting calculations and documentation:

A. Mash feed rate to the fermentation tanks (gallons/hour);

B. Total quantity of mash fed into a fermentation tank during each cycle.

C. Fermentation tank cycle time (hours/cycle).

ii. The values of the key operating parameters and range of pressure drop for the fermentation scrubber within which the scrubber will be operated, as required by Condition 2.4.5(a), with explanation and supporting documentation.

b. Records for any period during which any affected unit that is normally controlled by the fermentation scrubber was in operation when the fermentation scrubber or oxidizers was not in operation or was malfunctioning so as to cause emissions in excess of applicable emissions limitation.

c. The following logs for affected units and the fermentation scrubber:

i. Operating log(s), in accordance with Condition 3.3(c).

ii. Inspection, maintenance and repair log(s) in accordance with Condition 3.3(d).

d. Records for any upsets in affected units 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. The following records related to emissions:

i. Documentation for the emission rates or factors and maximum hourly emission rates for emissions of VOM, HAP and PM used by the Permittee to determine emissions of the various affected units.

ii. Records for the usage of sulfuric acid or other sulfur-containing reagent in the fermentation process that contributes to SO_2 emissions when stillage is subsequently processed into feed.

iii. Records of all other data used or relied upon by the Permittee to determine the emissions of the affected units.

iv. Records of the VOM, HAP and PM emissions from the affected units that are to be controlled by the fermentation scrubber and oxidizers (tons/month and tons/year), based on appropriate emission rates or factors and operating data, with supporting calculations. See Condition 2.6.9.

v. Records of the VOM and HAP emissions from the affected units that are not controlled (tons/year), based on appropriate emission rates or factors and operating data, with supporting calculations.

Note: For the purpose of these records, HAPS shall include acetaldehyde and other organic HAPs emitted from the affected units, 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 units as follows. These notifications shall include the information specified by Condition 3.4.

i. If there is an exceedance of an applicable operating parameter requirement for the fermentation 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. 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 3.4(a).

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.

Stillage, the solids-laden material recovered from the bottom of the distillation system, is processed in mechanical centrifuges to de-watered and produce “wet cake”. The recovered water from the centrifuges is processed in a steam driven evaporator to produce thick syrup.

The emissions from the certain distillation units, along with the emissions of certain units associated mash preparation and feed dewatering are controlled by oxidizers (1 and 2). (See Condition 2.6)

2.5.2 List of Emission Units and Pollution Control Equipment

Operation	Emission Unit/Process Equipment	Emission Control Equipment
Distillation	Beer Column, rectifier column, stripper column & condenser	Oxidizers (1 and 2)
	190-proof storage & Molecular Sieve	Oxidizers (1 and 2)
Solid Separation and Evaporation	Whole Stillage Tank	----
	Centrifuges	Oxidizers (1 and 2)
	Centrate Tank	Oxidizers (1 and 2)
	Thin Stillage Tank	----
	Syrup Tank	----
	Evaporators	Oxidizers (1 and 2)
	Process Condensate Tank	----

2.5.3 Applicability Provisions and Applicable Regulations

a. An “affected unit” for the purpose of these unit specific conditions is the emission units described in Conditions 2.5.1 and 2.5.2.

b. The affected units are subject to 35 IAC 212.321. (Refer to Condition 2.3.3(c))

c. The affected units are subject to 35 IAC 215.301. (Refer to Condition 2.4.3(c))

2.5.4 Non-Applicability of Regulations of Concern

a. This permit is issued based on the affected units 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.

b. This permit does not address the applicability of 35 IAC 215.301 for the affected units that are controlled by oxidizer systems 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 lbs/hour. [Refer to Condition 2.6.6(a)]

2.5.5 Operational and Production Limits and Work Practices

The affected units that are controlled by oxidizers shall not operate when the oxidizers are not in service.

2.5.6 Emission Limitations

This permit is issued based on no emissions from the operation of the affected units other than emissions that occur through the oxidizers, as addressed in Condition 2.6.6(a); emissions from miscellaneous units, as addressed by Condition 2.4.6(c); or emissions attributable to leaking components, as addressed in Condition 2.9.6.

2.5.7 Testing Requirements

None

2.5.8 Monitoring and Instrumentation Requirements

None

2.5.9 Recordkeeping Requirements

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

a. A file containing the values of the following operating parameters for the distillation process when operating normally, hourly average, with supporting calculations and documentation:

i. Ethanol content of beer in the beer well.

ii. Feed rate to the beer column.

iii. Feed rate to the molecular sieve.

iv. Condenser cooling water temperature (ºF).

b. The following logs for the affected units:

i. Operating log(s), in accordance with Condition 3.3(c).

ii. Inspection, maintenance and repair log(s) in accordance with Condition 3.3(d).

c. Records for any upsets in the operation or condition of affected units 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.

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 units as follows. These notifications shall include the information specified by Condition 3.4.

i. If there are direct emissions from affected units, contrary to Condition 2.5.6, the Permittee shall notify the Illinois EPA within 72 hours.

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 3.4(a).

2.6 Feed Drying Operations

2.6.1 Description

The wet cake from the centrifuges and the syrup from the evaporator are mixed and further processed by drying.

Two natural-gas fired dryers would be used to produce dry feed from wet cake. These dryers would have the capacity to convert all wet cake produced at the facility into dry feed. Each dryer would be equipped with cyclones to minimize carry of PM with the exhaust. Each dryer would be equipped with natural gas-fired regenerative thermal oxidizer (Oxidizers (1 and 2)) (with a nominal rated burner capacity of 18 million Btu/hour, each) for controlling emissions of CO, VOM, HAP and PM from the dryer. The dried feed is then cooled as it is being conveyed to the feed storage area prior to shipping to customers. Approximately 65% of the dry feed cooler exhaust will be vented to the dryers as combustion air which reduces VOM emissions from the dry feed coolers. Particulate matter (PM) emissions from the cooling drum and feed loadout operation are controlled by associated baghouses.

The oxidizers (1 and 2) also control the emissions from certain units in the mash preparation area (mixer, mix tanks, and yeast tanks), fermentation scrubber and certain units from the distillation area (beer column, stripper column, rectifier column, degasser, rectifier condenser, molecular sieve, centrate tank, evaporators and centrifuges) [See Condition 2.4 and 2.5].

2.6.2 List of Emission Units and Pollution Control Equipment

Operation	Emission Unit/Process Equipment	Emission Control Equipment
Mash Preparation (refer to Condition 2.4)	Mixer	Regenerative Thermal Oxidizers (Oxidizers (1 and 2))
	Mix Tanks	
	Yeast Tanks	
Fermentation	Fermentation scrubber	
Distillation (refer to Condition 2.5)	Beer Column, stripper column, rectifier column, degasser, & rectifier condenser	
	Molecular Sieve	
Solid Separation and Evaporation	Centrate Tank	
	Evaporators & centrifuges	

Operation	Emission Unit/Process Equipment	Emission Control Equipment
Feed Drying	Two Dryer/cyclone Systems (90 mmBtu/hr, each)	
	Feed Cooling Drums	Dryers & Baghouses A & B
	Dry feed conveyors and elevator	Baghouse
	Feed Storage	----
	Truck/Rail Loadout	Aspirated Spout/Filters (1 – 2)
	Wet Feed Storage Pad	----

2.6.3 Applicability Provisions and Applicable Regulations

a. An “affected units” for the purpose of these unit specific conditions are the emission units described in Conditions 2.6.1 and 2.6.2.

b. The affected units are subject to 35 IAC 212.321. [Refer to Condition 2.3.3(c)]

c. The affected units are subject to 35 IAC 215.301. [Refer to Condition 2.4.3(c)]

2.6.4 Non-Applicability of Regulations of Concern

a. For the affected units that are controlled by the oxidizers, this permit does not address the applicability of 35 IAC 215.301 because the organic material emissions of the units are required to be controlled by greater than 85 percent, such that organic material emissions are less than 8.0 lbs/hour.

2.6.5-1 Operational Requirements Related to the Feed Dryers and Oxidizers

a. i. Natural gas and biogas shall be the only fuel fired in the dryers/oxidizers.

ii. The rated heat input of each feed dryer shall not exceed 92 million Btu/hour.

iii. The rated heat input of each oxidizer shall not exceed 18 million Btu/hour.

iv. The total usage of natural gas in the oxidizers shall not exceed 29 million cubic feet per month and 316 million cubit feet per year.

v. The feed dryers and oxidizers shall be equipped, operated, and maintained with low NO_x burner technology.

b. The cyclones for the feed dryers shall be designed so as to be able to be operated to maintain effective control of emissions across the full range of operation of the dryers, such that control of emissions is not significantly degraded by the operating rate of the dryers, as related to the control of PM provided by the cyclones.

c. i. During periods when feed is present in dryers or emissions from other units are vented to an oxidizer, the minimum combustion chamber temperature of the oxidizer shall be maintained at a temperature that is consistent with the manufacturer's recommended temperature or at which emission testing demonstrated compliance with applicable requirements. Notwithstanding the above, during shutdown of dryers and other units served by an oxidizer, the combustion chamber temperature of the oxidizer need not comply with the above requirements and may instead be maintained in accordance with good air pollution control practices as addressed by the Permittee in its written procedures for shutdown of the oxidizer and associated units.

ii. The combustion chamber of the oxidizers 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 dryers or venting other units to the oxidizers.

iii. Notwithstanding the above, for the purpose of evaluation of the oxidizers and further emission testing, the Permittee may operate the oxidizers at different operating parameters in accordance with a detailed plan describing the evaluation and testing program submitted to and approved by the Illinois EPA.

d. The Permittee shall operate and maintain the affected units and associated control systems 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 feed dryers and associated oxidizer and address likely malfunction and upsets events for the feed dryers and oxidizers.

e. i. If initial emission testing of a feed dryer system and associated oxidizer shows compliance with requirements for VOM emission by less than 20 percent of the permitted VOM emissions, the Permittee shall implement a Control Improvement Program for the dryer-oxidizer system with the objective of achieving compliance by a margin of at least 20 percent.

ii. The Permittee shall submit a copy of the Control Improvement 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.

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

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

C. Following completion of the Control Improvement Program, the Permittee shall again test VOM emissions from the affected unit in 60 days, in accordance with Condition 3.3-1.

2.6.5-2 Operational Requirements for Other Affected Units and Baghouses

a. The Permittee shall operate the baghouses for the affected units 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.

b. PM emissions from feed loadout shall be controlled by partial enclosure and loadout practices to minimize loss of dust.

c. The Permittee shall operate and maintain air pollution control equipment for the affected units 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.

d. i. If initial emission testing of a baghouse for affected units shows filterable PM emissions greater than 0.0045 gr/scf, the Permittee shall implement a Control Improvement Program for the baghouse with the objective of meeting this value.

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

iii. The Control Improvement Program shall be completed in six months.

iv. Following completion of the Control Improvement Program, the Permittee shall again test PM emissions from the baghouse in 60 days, in accordance with Condition 3.3-1.

2.6.6 Emission Limitations

a. i. The VOM emissions from the affected units controlled by the oxidizers shall be controlled by at least 98.5 weight percent or to a concentration of no more than 10 ppmv, whichever is less stringent.

ii. The CO emissions from affected units controlled by the oxidizers shall be controlled by at least 90 weight percent or to a concentration of no more than 100 ppmv, whichever is less stringent.

b. Emissions of affected units controlled by the oxidizers shall not exceed the following limits:

	Each Oxidizer		Combined
Pollutant	(Lbs/Hr)	(Tons/Yr)	(Tons/Yr)
NO_x	4.9*	21.3	42.6
CO	5.1	22.1	44.2
VOM	6.0	26.2	52.4
PM/PM_{10}	4.5	19.5	39.0
SO_2	6.0	26.2	52.40
Acetaldehyde	0.24	1.0	2.4
Individual HAP, other than acetaldehyde	0.96	4.2	8.4
Total HAP, other than acetaldehyde	1.9	8.2	14.6

* This limit is in terms of lbs/million BTU, heat input to the burner.

c. i. The fabric filter (baghouse) on feed cooler and dry feed conveyors shall comply with an emission limit of 0.005 grain per standard cubic feet (gr/scf).

ii. Emissions of VOM, HAP and PM from feed cooler and dry feed conveyors (baghouse) shall not exceed the following limits:

	Limits	
Pollutant	(Lbs/Hr)	(Tons/Yr)
VOM	2.12	9.3
PM	2.14	9.4
Acetaldehyde	0.06	0.3
Individual HAP, Other	0.12	0.53
Than Acetaldehyde		
Total HAP, Other than	0.19	0.82
Acetaldehyde		

d. i. Fabric filter (baghouse) on dry feed loadout shall comply with an emission limit of 0.005 grain per standard cubic feet (gr/scf).

ii. Emissions of PM from dry feed loadout shall not exceed 0.20 lb/hour and 0.90 tons/year.

iii. The above limits do not account for uncaptured PM emissions from the dry feed loadout, which shall not exceed 0.58 tons/year.

e. i. A. Emissions of VOM from the wet cake transfer and loadout operation shall not exceed 0.87 lb/month, 4.0 tons/year, and 0.042 tons per 10,000 tons of wet feed shipped.

B. For each 10,000 tons of wet cake shipped from the plant during a 12-months period, the annual VOM emissions from the dryers and feed cooler as allowed by Conditions 1.5.6(b) and (c), shall each be reduced by 0.021 tons (0.042 tons, total)

ii. 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/hour and 0.44 tons/year.

2.6.7 Testing Requirements

a. The Permittee shall perform emission tests for affected units as specified in Condition 3.1-1.

b. Upon written request by the Illinois EPA, the Permittee shall perform opacity observation in accordance with the methods and procedures specified by Condition 3.1-2 for affected units as specified in such request.

2.6.8-1 Monitoring Requirements for the Dryers and Oxidizers

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

i. Inlet temperature each feed dryer.

ii. Negative air pressure in each feed dryer.

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

b. The Permittee shall equip each oxidizer with a continuous monitoring device for combustion chamber temperature, which device shall be operated at all times that the oxidizer is in use and maintained within an accuracy of ±15°F.

c. 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 oxidizers, 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.

d. i. If the initial testing of the oxidizers or further testing conducted by the Permittee does not demonstrates that the oxidizers normally comply with the applicable hourly emission limit for CO in Condition 2.6.6 by a margin of at least 5 percent, the Permittee shall install, calibrate, operate, and maintain a CO continuous emissions monitoring system on the stack for the oxidizers within one year after the initial emission testing required by this permit, unless the Illinois EPA approves further time for the Permittee to demonstrate that the oxidizers achieve this level of performance or the Permittee submits a proposed parametric monitoring plan, supported with continuous emissions monitoring data for CO, and the Illinois EPA approves a parametric monitoring plan for CO emissions from the oxidizers in lieu of continuous monitoring.

ii. This monitoring system shall be operated during all periods of operation of the oxidizers except for monitoring system maintenance, breakdowns and repairs. The Permittee shall comply with applicable requirements of the NSPS for continuous emission monitoring.

iii. The Permittee shall maintain records for this monitoring system, including recorded emission concentrations and records of maintenance, calibration, and operational activity associated with the system.

iv. The Permittee shall submit quarterly monitoring reports to the Illinois EPA for this monitoring system in accordance with applicable reporting requirements of the NSPS for continuous emissions monitoring systems.

v. The requirement for this monitoring system may be revised or waived in the operating permit for the source if the Illinois EPA determines that compliance with requirements for CO emissions are not facilitated to a significant degree by such monitoring.

2.6.8-2 Instrumentation Requirements

a. i. The Permittee shall install, operate and maintain instrumentation to record natural gas usage by each oxidizer systems, which data shall be recorded on at least a monthly basis.

ii. The Permittee shall install, operate, and maintain instrumentation to record natural gas usage by each feed dryer, which data shall be recorded on at least monthly basis.

b. The Permittee shall install, operate, and maintain instrumentation on each baghouse for the affected units to measure pressure drop across the baghouse, which data shall be recorded on at least a daily basis.

2.6.9 Recordkeeping Requirements

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

a. A file containing:

i. Design information for the feed dryers and oxidizers, with supporting documentation:

A. The design heat input capacity of each feed dryer (mmBtu/hour).

B. Moisture removal capacity of each feed dryer system, lbs water/hour.

C. The design heat input of each oxidizer, (mmBtu/hour).

ii. The values of the operating parameters for the feed dryers and oxidizers within which equipment will be operated, as required by Condition 2.6.5(c) and (d), with explanation and supporting documentation.

iii. For the baghouses used to control affected units:

A. A copy of the manufacturer’s specifications and recommended operating and maintenance procedures for each baghouse.

B. The range of pressure drop within which each baghouse will be operated, as required by Condition 2.6.5(c), if not the range recommended by the manufacturer, with explanation and supporting documentation.

b. Records for feed production from the plant (tons/month and tons/year, as shipped, by type of feed, e.g., dry, modified or wet).

c. The following logs for affected units and associated control devices:

i. Operating log(s), in accordance with Condition 3.3(c), which shall also include:

A. For affected units controlled by an oxidizer, (including affected mash preparation units and affected distillation units), the operating levels of the units during periods when units operated when the oxidizer was out of service or was experiencing an upset or malfunction.

B. For feed dryers, periods when feed is present in a dryer while the associated oxidizer not in operation.

ii. Inspection, maintenance, and repair log(s) in accordance with Condition 3.3(d), which also specifically identify performance of the inspections required by Condition 2.6.5-2(c)(ii).

d. The following records related to emissions:

i. Documentation for the emission rates or factors and maximum hourly emission rates for emissions of different pollutants used by the Permittee to determine emissions of the various affected units.

ii. Records of all other data used or relied upon by the Permittee to determine the emissions of the affected units.

iii. Records for upsets in the operation of the feed dryer or other affected units 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 emissions that occurred, with supporting calculations and background information.

iv. Records of the NO_x, CO, PM, SO_2, VOM, and HAP emissions from the feed dryer and other units controlled by each oxidizer system (tons/month and tons/year), based on appropriate emission rates or factors and operating data, with supporting calculations.

v. Records of the monthly and annual PM, VOM, and HAP emissions from the affected feed cooling and transport system, with supporting calculations.

vi. Records of the monthly and annual PM emissions from the affected feed load out system, with supporting calculations.

vii. Records of the monthly and annual VOM and HAP emissions from wet cake transfer and load out, with supporting calculations.

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

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 3.4(a).

a. i. If there is an exceedance of applicable requirements for the oxidizers, as determined by the monitoring required by Condition 2.6.8 that lasts longer than three hours (180 minutes), the Permittee shall immediately notify the Illinois EPA. The initial notification for such a deviation may be supplemented with additional information submitted within seven days of the deviation, as needed to provide all information required by Condition 3.4.

ii. For VOM and CO emissions from the oxidizers, periods of excess emissions shall include any 1-hour period when the affected feed dryer systems are operating in which the average combustion temperature is more than 50°F below the temperature during testing that 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.

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

b. 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 five days in advance unless the activity is scheduled less than five days in advance. This

notification may be supplemented with additional information submitted within seven days of the deviation, as needed to provide all information required by Condition 3.4(a).

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

Operation	Emission Unit/Process Equipment	Emission Control Equipment
Storage Tanks	Two Denatured Ethanol Tanks (1,500,000 Gallons, each)	Internal Floating Roof with Primary and Secondary Seals
	200 Proof Ethanol Tank (300,000 Gallons)	Internal Floating Roof with Primary and Secondary Seals
	190 Proof Ethanol Tank (300,000 Gallons)	Internal Floating Roof with Primary and Secondary Seals
	Denaturant Tank (150,000 Gallons)	Internal Floating Roof with Primary and Secondary Seals
	Corrosive Inhibitor Tank (3,000 Gallons)	----

2.7.3 Applicability Provisions

a. i. The “affected tanks,” for the purposes of these unit specific conditions are the internal floating roof storage tanks described in Conditions 2.8.1 and 2.8.2.

ii. The “incidental tanks” for the purpose of these unit specific conditions are the corrosive inhibitor tank and other small tanks for low vapor pressure material.

b. 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(b), 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 215.120, 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 215.120, 215.127,

and 215.128, following the review of the requirements of 40 CFR 60 Subpart Kb and 35 IAC 215.120, 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.

b. This permit is issued based on negligible emissions of VOM from the incidental tanks (corrosive inhibitor tank). For this purpose, emissions from all such sources shall not exceed nominal emission rates of 0.1 lb/hr and 0.44 ton/yr.

2.7.6 Emission Limitations

a. Emissions of VOM from the affected tanks shall not exceed 2.94 tons/year. Emissions from the affected storage tanks shall be determined based on operating information for the tanks and the USEPA’s TANKS program.

b. i. The acetaldehyde emissions from affected tanks shall not exceed 0.01 tons/year.

ii. The emissions of individual HAPs, other than acetaldehyde, from the affected tanks shall not exceed 0.05 tons/year.

iii. The emissions of total HAPs, other than acetaldehyde, from the affected tanks shall not exceed 0.1 tons/year.

2.7.7 Operating Requirements

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

ii. Each incidental tank is limited to the storage of low-vapor pressure material.

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 2.7.10 (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 Condition 2.7.6 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 2.7.8 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 3.4.

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 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, railcars or barge 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

Operation	Emission Unit/Process Equipment	Emission Control Equipment
Ethanol Loadouts	Truck Loadout	Loadout Flare
	Rail Loadout	

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 all vapor displaced by ethanol loadout into the truck or railcar to the loadout flare.

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 flare shall be monitor 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 affected loading rack with the flare in accordance with good air pollution control practice to minimize emissions of VOM.

i. Operation of 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.

ii. Maintaining 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.

d. 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.

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

f. 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.

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

2.8.6 Emission Limitations

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

b. The total organic compound emissions from the affected loading rack shall not exceed 0.1184 and 0.0082 pounds per 1000 gallons of material loaded to truck and railcar, respectively. This rate shall include those emissions not captured or controlled.

c. 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	0.93	0.5
CO	5.05	2.4
VOM	1.50	3.8

These limits are based on the information in the application including emissions from the flare combustion, maximum ethanol loadout to truck (71.5 million gallons per year), and flare destruction efficiency (98%).

d. This permit is issued based on minimal emissions of PM and SO_2 from the loadout flare. For this purpose, emissions shall not exceed a nominal emission rate of 0.01 pound/hour and 0.044 tons/year, each.

e. i. The acetaldehyde emissions from affected loading rack shall not exceed 0.01 tons/yr.

ii. The emissions of individual HAPs, other than acetaldehyde, from the affected loading rack shall not exceed 0.52 tons/year.

iii. The emissions of total HAPs, other than acetaldehyde, from the affected loading rack shall not exceed 1.13 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 3.1.

2.8.8 Monitoring Requirements

The flare shall be equipped with a monitor or other device to confirm presence of a flame for 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 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, which lists activities that are performed, with date and responsible individual(s).

d. A file containing emission factors developed using published USEPA emissions estimation methodology, and

standard USEPA emission factors, as flare is properly operated.

e. 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 flare operates properly, e.g., 98 percent destruction of VOM. For periods when the loadout 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 3.4.

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 Operational Flexibility/Anticipated Operating Scenarios

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.

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

Operation	Emission Unit/Process Equipment	Emission Control Equipment
Process Components (Valves, Flanges, pressure relief devices, Pumps, Seals, etc.)	Processing of Organic Material through the Plant’s Piping System	Leak Detection and Repair Program

2.9.3 Applicability Provisions

a. The “affected components” are equipment components, described in Condition 2.9.1 and 2.9.2 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 8.71 tons per year, total, as determined by use of appropriate USEPA methodology for estimating emissions from leaking components.

b. i. The acetaldehyde emissions from affected components shall not exceed 0.01 tons/year.

ii. The emissions of individual HAPs, other than acetaldehyde, from the affected components shall not exceed 0.01 tons/year.

iii. The emissions of total HAPs, other than acetaldehyde, from the affected components shall not exceed 0.02 tons/year.

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, or relief device);

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 3.4.

2.9.11 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 Anaerobic Treatment

2.10.1 Description

The anaerobic treatment module 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 anaerobic treatment module.

2.10.2 List of Emission Units and Pollution Control Measures

Operation	Emission Unit/Process Equipment	Emission Control Equipment
Anaerobic Treatment	Anaerobic Treatment Module	Dryers or Anaerobic Treatment Module Flare

2.10.3 Applicable Regulations

The anaerobic treatment module is subject to 35 IAC 212.321. (Refer to Condition 2.2.3(c))

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 anaerobic treatment module shall be vented to the flare if bio-gas is not used as fuel at the plant.

2.10.6 Emission Limitations

a. Emissions from the anaerobic treatment module, excluding emissions associated with use of bio-gas as fuel, shall not exceed the following limits:

	Emission Rate	
Pollutant	(Lbs/Hour)	(Tons/Year)
NO_x	0.31	0.20
CO	1.64	0.75
VOM	0.23	0.10

These limits are based on the information provided in the permit application including standard emission factors and annual operation of the flare for disposal of bio-gas with 10 percent capacity factor.

b. This permit is issued based on minimal emissions of PM and SO2 from the flare. For this purpose, emissions shall not exceed a nominal emission rate of 0.01 pound/hour and 0.044 tons/year.

c. i. The acetaldehyde emissions from affected units shall not exceed 0.01 tons/yr.

ii. The emissions of individual HAPs, other than acetaldehyde, from the affected units shall not exceed 0.01 tons/year.

iii. The emissions of total HAPs, other than acetaldehyde, from the affected units shall not exceed 0.02 tons/year.

2.10.7 Testing Requirements

None

2.10.8 Monitoring Requirement

The anaerobic treatment module 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 anaerobic treatment module:

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

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

c. Records for the actual amount of bio-gas generated by the anaerobic treatment module (scf/month and scf/year), with supporting calculations.

d. The following records related to flaring of bio-gas:

i. Each period when bio-gas is flared, with date, duration and explanation.

ii. The actual amount of bio-gas directed to the flare during these periods, if the Permittee estimates emissions from the anaerobic treatment module for only bio-gas actually directed to the flare (rather

than assuming that all bio-gas that is generated is flared), with supporting calculations.

iii. Each period when the flare operated without a flame present in the flare, including explanation and the amount of biogas exhausted through the flare during such period, with supporting calculations.

e. Records on at least an annual basis of the VOM, CO and NO_x emissions from the anaerobic treatment module, 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 anaerobic treatment module as follows. These notifications shall include the information specified by Condition 3.4.

i. If the anaerobic treatment module 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.

2.11 Cooling Tower

2.11.1 Description

A non-contact cooling tower is used to support the heat exchangers used to cool process streams. Drift loss will be limited through the installation of high efficiency drift eliminators.

2.11.2 List of Emission Units and Pollution Control Measures

Operation	Emission Unit/Process Equipment	Emission Control Equipment
Cooling Tower	Non-Contact Cooling Tower	Drift Eliminators

2.11.3 Applicable Regulations

The cooling tower is subject to 35 IAC 212.321. (Refer to Condition 2.2.3(c))

2.11.4 Non-Applicability of Regulations of Concern

None

2.11.5 Operational and Production Limits and Work Practices

a. The cooling tower shall be equipped with drift eliminators with a design drift loss efficiency of at least 0.002 percent.

b. The total dissolved solids (TDS) content of the water circulated in the cooling tower shall not exceed 2500 ppm, annual average.

c. i. Only non-VOC additives shall be used in the cooling tower.

   ii. Process water or wastewater shall not be introduced into the cooling water, other than through unintentional leaks, which shall promptly be repaired.

2.11.6 Emission Limitations

Emissions of PM from the cooling tower shall not exceed 5.5 tons per year.

2.11.7 Testing Requirements

None

2.11.8 Sampling and Analysis Requirements

a. The Permittee shall sample and analyze the water circulated in the cooling tower on at least a quarterly basis for the TDS concentration, taking either grab samples or a daily composite sample of the water.

b. The Permittee shall keep records for this sampling and analysis activity, including documentation for sampling and analysis as well the resulting data that is collected.

2.11.9 Recordkeeping Requirements

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

a. A file containing:

i. The manufacturer’s specifications or design data for the cooling tower, including water circulation rate (gallons/hour) and design loss rate of the drift eliminators (percent), with supporting documentation.

ii. The maximum PM emissions from the cooling tower (tons/year), based on maximum operating rate of the cooling tower and factors that with greatest loss of PM as emissions, with supporting calculations.

b. Records for the actions used to routinely verify the solids contents of the water circulating in the cooling tower, such as sampling and analysis in accordance with the NPDES permit, periodic grab sampling and analysis, conductivity measurements, etc., including:

i. If routine verification will not be conducted pursuant to the NPDES permit, a written description of the procedures, with explanation of how they act to address compliance.

ii. Records for implementation of the procedure, including measured value(s) of relevant parameter(s).

c. Records for the amount of water circulated in the cooling tower, gallons/month, with supporting calculations.

d. The following logs for the cooling tower:

i. Operating log(s), in accordance with Condition 3.3(c).

ii. Inspection, maintenance and repair log(s) in accordance with Condition 3.3(d).

e. Records for the PM emissions from the cooling tower (tons/month and tons/year), 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 3.4.

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.

2.12 Roadways and Other Sources of Fugitive Dust

2.12.1 Description

Fugitive dust (PM emissions) are generated by vehicle traffic on roadways and parking lots at the plant. The plant would have approximately 1 mile of roadways, to receive and ship materials and provide access to the facilities. Emissions of PM will be controlled by paving major roadways, which handle all the traffic coming into or leaving the plant, and by a dust control program for all roadways.

2.12.2 List of Emission Units and Pollution Control Measures

Operation	Emission Unit/Process Equipment	Emission Control Equipment
Fugitive Dust	Plant Roads and Parking Lots and Vehicle Traffic	Paving and Sweeping

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 1.3(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 because of the disperse nature of these emissions units. [35 IAC 212.323]

2.12.5 Operational and Production Limits and Work Practices

a. Multi-service road segments, i.e., portion of roadways that handle truck traffic for grain, feed, and fuel ethanol trucks, shall be paved.

b. The Permittee shall follow good air pollution control practices to minimize 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 as necessary to prevent nuisance emissions of dust.

c. 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 2.13.3, 2.13.5(a) and 2.13.6, to control fugitive dust at each area of the plant with the potential to generate significant quantities of fugitive dust. This program shall include: (1) 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; (2) A description of the emissions control technique(s) (e.g., water spray surfactant spray, water flushing, or sweeping), that will routinely be implemented; (3) triggers for implementation of additional control, e.g., observation of extended dust plumes following passage of vehicles; and (4) the estimated effectiveness of the various control techniques in reducing PM emissions, with supporting documentation.

ii. The Permittee shall submit a copy of a revised fugitive dust control program to the Illinois EPA for review within 90 days as follows:

A. A revised program that includes such control measures for fugitive dust as may be needed to assure compliance with Condition 2.12.8 shall be submitted if:

1. The average silt loading on roadways, as measured pursuant to Condition 2.12.6, exceeds 0.4 grams/square meter;

2. The projected maximum total PM emissions, based on the records required by Condition 2.12.9(a)(ii) are more than 90 percent of a limit in Condition 2.12.6; or

3. Total PM emissions from the affected operations exceed the limit in Condition 2.12.8.

B. A revised program that corrects observed deficiencies in the control program shall be submitted if the Illinois EPA makes a written request for a revised program, citing deficiencies in the current program.

2.12.6 Emission Limitations

Emissions of PM from the affected operations shall not exceed 15.30 tons per year as PM and 3.6 tons/year as PM_{10}, as determined by use of appropriate USEPA methodology for estimating emissions of fugitive dust.

2.12.7 Testing Requirements

None

2.12.8 Operational Measurements

The Permittee shall conduct measurements of the silt loading on various affected roadway segments and parking areas, as follows:

a. Sampling and analysis of the silt loading shall be conducted using the “Procedures for Sampling Surface/Bulk Dust Loading,” Appendix C.1 in Compilation of Air Pollutant Emission Factors, USEPA, AP-42. A series of samples shall be taken to determine the average silt loading and address the change in silt loadings as related to the amount and nature of vehicle traffic and implementation of the operating program.

b. Measurements shall be performed by the following dates:

   i. Measurements shall first be completed no later than 30 days after the date that initial emission testing of the feed dyers is performed, as required by Condition 2.6.7.

   ii. Measurements shall be repeated within 30 days in the event of changes involving affected units that would act to increase silt loading (so that data that is representative of the current circumstances of the affected units has not been collected), including changes in the amount or type of traffic on affected units, changes in the standard operating practices for affected units, such as application of salt or traction material during cold weather, and changes in the operating program for affected units.

   iii. Upon written request by the Illinois EPA, the Permittee shall conduct measurements, as specified in the request, which shall be completed within 75 days of the Illinois EPA’s request.

c. The Permittee shall submit test plans, test notifications and test reports for these measurements as specified by Condition 3.1

2.12.9 Recordkeeping Requirements

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

a. A file containing:

i. The Permittee's assumptions, with supporting explanation, for the typical and maximum quantity and nature of vehicle traffic at the plant, including truck traffic related to the receipt of raw materials and loadout of products and employee and other vehicle traffic involved in the routine operation of the plant.

ii. The maximum PM emissions from the affected operations (tons/year, as PM and as PM_{10}), with supporting calculations, based on the maximum vehicle traffic at the plant (as recorded above), the silt loading on the different classes of roadways at the plant (as measured pursuant to Condition 2.12.8), and the effectiveness of the current fugitive dust control program (as addressed in Condition 2.12.5(b).

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

i. For each dust control treatment of a roadway(s): the date and time; the reason for treatment, if not routine; the identity of the roadway(s) treated; the type of treatment, the identity of the treatment vehicle or equipment; and a description of any unusual observations or events related to control of dust that occurred during treatment;

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 the amount of different material received or shipped from the plant by rail (gallons or tons, by type of material).

d. 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 3.4.

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.

Section 3: General Conditions

3.1-1 Emission Testing

a. i. Within 180 days of initial startup of feed dryers, Permittee shall have emissions of selected units as specified in the following table shall be measured during conditions which are representative of maximum emissions:

	Emissions						Efficiency	
Emission Unit/Process	PM	VOM	NO_x	CO	SO_2	HAP	VOM	CO
Grain Receiving and Handling Baghouse	X							
Milling Baghouse	X							
Fermentation Scrubber	X	X				X	X	
Oxidizer 1	X	X	X	X*	X**	X	X	X***
Oxidizer 2	X	X	X	X*	X**	X	X	X***
Cooling Drum Baghouses	X	X				X		
Feed Loading Filters	X							
Boilers		X	X	X				

* Emissions testing for CO shall be conducted concurrently with NO_x testing, except for the boilers, for which non-concurrent CO testing may be conducted once the NO_x monitors are certified.

** Emissions testing of the oxidizers shall be conducted on one oxidizer, either chosen at random or as selected by the Illinois EPA.

*** Efficiency testing need not be performed if the Permittee is demonstrating compliance based on the concentration of CO in the exhaust.

ii. In addition to the emission testing required above, 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 EPA or such later date agreed to by the Illinois EPA.

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 Methods 5[a] and 202[b]
Sulfur Dioxide	USEPA Methods 6, 6a, 6b or 6c
Nitrogen Oxides	USEPA Methods 7, 7E, or 19
Opacity	USEPA Method 9[c]

Carbon Monoxide	USEPA Method 10
Volatile Organic Material	USEPA Methods 18 and 25/25A[d]
Hazardous Air Pollutants	USEPA Method 18[d,e]

Notes:

a. For emission units for which the average stack gas temperature is less than 250°F, such as grain handling operations, but not including boilers, testing may be conducted at actual stack gas temperature without heating of the probe or filter holders.

b. Particulate matter tests shall include measurements of condensable particulate matter, as collected in the back half of the Method 5 sampling train or by separate measurements using USEPA Method 202 (40 CFR Part 51, Appendix M).

c. Observation of opacity shall be made in conjunction with measurements of PM emissions.

d. Testing shall also be conducted in accordance with industry-specific guidance from USEPA on testing VOM and HAP emissions from process units at ethanol plants. For example, results of VOM emission measurements by Method 25 or 25A shall be multiplied by the appropriate default scalar factor (currently 2.2) unless appropriate speciated VOM measurements are conducted to establish a unit-specific ratio between the results of Method 25 or 25A testing and actual VOM emissions.

e. USEPA Method 320 may also be used.

c. For purposes of determining compliance of each affected boiler with the NSPS standard:

i. The emission tests for each affected boiler shall be conducted and data collected in accordance with 40 CFR 60.8 and the test methods and procedures specified in 40 CFR 60.46(e).

ii. NO_x emissions shall be monitored for 30 successive boiler operating days and the 30-day average emission rate is used to determine compliance of each affected boiler with the NSPS standard. The 30-day average emission rate is calculated as the average of all hourly emissions data recorded by the monitoring system during the 30-day test period, unless USEPA approves alternative procedures to demonstrate compliance with the NSPS pursuant to 40 CFR 60.13(i).

d. i. The Permittee shall submit a written test plan 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).

e. The Permittee shall notify the Illinois EPA 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.

f. The Permittee shall submit copies of the Final Reports for these tests 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. Operating data for the unit(s) and associated control devices during testing, including data both for parameters for which operation will be restricted based upon the value of operating parameters during testing and for parameters that are needed to more fully describe operating conditions during testing.

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

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

g. The Permittee shall retain copies of emission test reports shall be retained for at least three years after the date that an emission test is superseded by a more recent test.

3.1-2 Opacity Observations

a. Upon written request by the Illinois EPA, the Permittee shall conduct opacity observations for specific affected operation(s) or unit(s) within 45 calendar days of the request or on the date agreed upon by the Illinois EPA, whichever is later.

b. Opacity of emissions shall be determined during representative weather and operating conditions by a qualified observer in accordance with USEPA Test Method 9, as further specified below.

c. The duration of opacity observations for each test shall be at least 30 minutes (five 6-minute averages) unless the average opacities for the first 12 minutes of observations (two six-minute averages) are both no more than half of the most stringent requirement applying to opacity.

d. i. The Permittee shall notify the Illinois EPA at least 7 days in advance of the date and time of these tests, in order to allow the Illinois EPA to witness testing. This notification shall include the name and employer of the qualified observer(s).

ii. The Permittee shall promptly notify the Illinois EPA of any changes in the time or date for testing.

e. The Permittee shall provide a copy of its observer’s readings to the Illinois EPA at the time of testing, if Illinois EPA personnel are present.

f. The Permittee shall submit a written report for this testing within 15 days of the date of testing. This report shall include:

i. Date and time of testing.

ii. Name and employer of qualified observer.

iii. Copy of current certification.

iv. Description of observation condition, including recent weather.

v. Description of the operating conditions of the affected operation or unit.

vi. Raw data.

vii. Opacity determinations.

viii. Conclusions.

g. The Permittee shall retain copies of test reports for at least three years after the date that a test is superseded by a more recent test.

3.2 Operation or Maintenance Procedures

a. 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 manufacturer or supplier if a copy of these procedures is attached to the Permittee’s procedures.

b. For continuous monitoring devices and operational instrumentation required by this Permit, the Permittee shall keep a copy of manufacturer’s or supplier’s recommended operating and maintenance procedures and its specifications for the performance of the devices.

3.3 General Requirements for Logs

a. The logs required by this permit may be kept in manual or electronic form, and may be part of a larger information database maintained by the Permittee provided that the information required to be kept in a log is readily accessible.

b. The Permittee shall maintain logs for the operation and maintenance and repair of monitoring devices and other instrumentation required by this permit.

c. Operating logs required by this permit shall, at a minimum, include the following information:

i. Information identifying periods when a unit or group of related units was not in service.

ii. For periods when a unit or group of related units is in service and operating normally, relevant process information to generally confirm normal operation.

iii. For periods when a unit or group of related units is in service and is not operating normally, identification of each such period, with detailed information describing the operation of the unit(s) and the potential consequences for additional emissions from unit(s), with explanation.

d. Inspection, maintenance and repair logs required by this permit shall, at a minimum, include the following information:

i. Identification of equipment, with date, time, responsible employee and type of activity.

ii. For inspections, a description of the inspection, findings, and any recommended actions, with reason.

iii. For maintenance and repair activity, a description of actions taken, reason for action, e.g., preventative measure or corrective action as a result of inspection, and the condition of equipment following completion of the activity.

3.4 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.

Edwin C. Bakowski, P.E.
Acting Manager, Permit Section
Division of Air Pollution Control

ECB:MVP:psj

cc: Region 3

ATTACHMENT A

Listing of Identified Emission Units and Process Equipment

Operation	Emission Unit/Process Equipment	Emission Control Equipment
Boilers	Two Natural Gas Fired Boilers (150 Million Btu/Hr, Each)	Low-NO_x burner
Engine	Diesel Engine Generator	----
Grain Handling	Truck Receiving and Conveying System	Baghouse 1 and Pneumatic Filter Receiver
	Rail Receiving and Conveying System	
	Elevators	
	Storage Silos (1-2)	
	Cleaner	
	Grain Surge Bin	
Grain Milling	Hammermill Feed and Hammermills	Bin Vent Filters
	Hammermill Discharge Conveyors and Elevator	Baghouse 1
Mash Preparation	Cook Water Tank	----
	Slurry Blender	Fermentation Scrubber and Oxidizers (1 and 2)
	Slurry Tank (1-2)	
	Yeast Tank (1-2)	
	Cook Tubes (1-2)	Vents to Flash Tank
	Liquifaction Tank (1-2)	----
	Flash Tank	Vents to flash condenser
	Misc. Chemical Tanks	----
Fermentation	Fermenters (1-7)	Fermentation Scrubber and Oxidizers (1 and 2)
	Beer Well	
	Degasser	Oxidizers (1 and 2)
Distillation	Beer Column, stripper column	Oxidizers (1 and 2)
	Rectifier Column/condenser	
	Molecular Sieve	Oxidizers (1 and 2)
Solid Separation and Evaporation (Feed Dewatering)	Whole Stillage Tank	----
	Centrifuges	Oxidizers (1 and 2)
	Centrate Tank	Oxidizers (1 and 2)
	Thin Stillage Tank	----
	Syrup Tank	----
	Evaporators	Oxidizers (1 and 2)
Feed Drying	Two Dryer/Cyclone System	Oxidizers (1 and 2)
Feed Cooling	Feed Coolers (1 and 2)	Cooler Baghouses (A and B) and dryer/oxidizers
Feed Storage and Loadout	Feed Storage	----
	Elevator	----
	Conveyors	----
	Feed Loadout (Trucks)	Feed Loadout Aspirated Spout/Filter 1

Operation	Emission Unit/Process Equipment	Emission Control Equipment
	Feed Loadout (Railcars)	Feed Loadout Aspirated Spout/Filter 2
	Wet Feed Storage Pad	----
Storage Tanks	Two Denatured Ethanol Tanks (1,500,000 gal, Each)	Internal Floating Roof with Primary and Secondary Seals
	200 Proof Ethanol Tank (300,000 gal)	Internal Floating Roof with Primary and Secondary Seals
	190 Proof Ethanol Tank (300,000 gal)	Internal Floating Roof with Primary and Secondary Seals
	Denaturant Tank (150,000 gal)	Internal Floating Roof with Primary and Secondary Seals
	Corrosive Inhibitor Tank (3,000 gal)	----
Ethanol Loadout	Truck Loadout	Loadout Flare
	Rail Loadout	
Process Components (Valves, Flanges, Pumps, Seals, etc.)	Processing of Organic Material through the Plant's Piping System	Leak Detection and Repair Program
Anaerobic Treatment	Anaerobic Treatment Module	Dryers or Anaerobic Treatment Module Flare
Cooling Tower	Non-Contact Cooling Tower	Drift Eliminators
Fugitive Dust	Plant Roads and Parking Lots and Vehicle Traffic	Paving and Sweeping

Attachment B:

Discussion of the Potential Consequences from
Location of the Plant near an Existing Grain Elevator
(as generally addressed by Condition 1.5)

1.0 Support Facility Relationship

For the purposes of federal rules for Prevention of Significant Deterioration (PSD) and the Clean Air Act Permit Program (CAAPP), any of the following circumstances shall be considered sufficient to establish a "support facility" relationship between the proposed plant and the existing grain elevator located nearby, in the absence of a specific assessment by the Illinois EPA that finds that a support facility relationship is not present. If a support facility relationship is present, the proposed plant and the existing elevator would be considered a single source for various purposes, as discussed further below.

a. The presence of a conveyor belt to transfer grain from the elevator to the ethanol plant, so that the elevator and plant are physically linked;

b. The existence of an "origination agreement" or other similar agreement between the owner or operator of the ethanol plant and the owner or operator of the elevator, whereby the owner or operator of the elevator will manage all or most of the grain supply to the plant, so that the operation of the elevator and plant are contractually linked;

c. The issuance of new or revised permits for the grain elevator that increase the annual permitted grain throughput of the elevator by (32 million bushels), i.e., 50 percent or more of the expected grain usage by the ethanol plant, comparing the typical historical throughput of the elevator and the total permitted grain throughput of the elevator with the new or revised permits.

d. The delivery of more than 50 percent of the grain throughput of the elevator to the ethanol plant, on a calendar year basis, so that the operation of the elevator and plant are linked in actual practice;

e. The possession of a majority ownership interest in the ethanol plant by the owner or operator of the elevator, a majority ownership interest in the elevator by the owner or operator of the ethanol plant, or other similar ownership relationship between the parties holding ownership interest in the elevator and ethanol plant, so that the elevator and plant are linked by ownership; or

f. The provision of service(s), other than handling grain, to the plant on a regular basis by the owner or operator of the grain elevator, which services are essential for the functioning of the

plant, such as receiving of denaturant or shipment of feed or product ethanol.

The owner or operator of the plant or the owner or operator of the elevator may submit a request for an assessment by the Illinois EPA of the particular circumstances of the plant and elevator to determine whether a support facility relationship is present, notwithstanding fulfillment of one or more of the above circumstances. Such request shall be accompanied by relevant information and documentation to show that the specific circumstances are not such that a support facility relationship is present for purposes of PSD, as the term support facility has been defined by USEPA in rule and guidance.

Note: If a support facility relationship is not present between the ethanol plant and the existing grain elevator, the plant does not have any consequences under applicable air pollution control regulations on future emission control requirements for the grain elevator or its future permitting. Any future control requirements and future permitting for the elevator will be determined by only the operation and proposed projects at the elevator.

2.0 Consequences

2.1 General Consequences

a. Consequences for Control Requirements:

i. Operation and emissions of PSD pollutants from the grain elevator must be managed and controlled so as to comply with applicable limitations set in the permit(s) for the elevator.

ii. If the permanent storage capacity of the elevator will increase to more than 2,500,000 bushels, new and modified affected facilities constructed at the elevator must meet applicable emission standards of the New Source Performance Standards for Grain Elevators, 40 CFR 60, Subpart DD, when they commence operation.

b. Consequences for Permitting:

i. The owner or operator of the grain elevator shall obtain construction permit(s) from the Illinois EPA for any construction of new emission units or air pollution control equipment and any modification of existing units to serve the ethanol plant or other proposed construction activity at the elevator, which permit(s) will also establish limits on operation and emissions of the elevator to reasonably assure that the source is not a major source.

2.2 If potential emissions of PM, PM10 and other PSD pollutants from the plant and the elevator are each limited so that the totals are less than 100 tons per year of each pollutant

a. Additional Consequences for Control Requirements:

i. As provided by Section 9 of the Environmental Protection Act, existing and new emission units at the elevator would only be required to comply with relevant requirements of 35 IAC 212.462 if either: (1) Those units are causing or tending to cause air pollution or are identified in a certified investigation prepared by the Illinois EPA in accordance with 35 IAC 211.970 as causing or tending to cause air pollution; or (2) The source, i.e., the combination of the elevator and the ethanol plant, is required to obtain Clean Air Act Permit Program permits, as would potentially occur if applicable emission limits were exceeded in actual practice or construction of new emission units or modifications of existing units occurred at either the ethanol plant or the elevator, so that the source were a major source of emissions.

b. Consequences for Permitting:

i. The owner or operator of the elevator shall obtain a Federally Enforceable State Operating Permit (FESOP) from the Illinois EPA for the elevator prior to the initial startup of the ethanol plant. This permit shall comprehensively address operation and emissions of the elevator to reasonably assure that the source is not a major source.

ii. The owner or operator of the elevator shall obtain a Clean Air Act Permit Program (CAAPP) permit for the elevator from the Illinois EPA, applying for such CAAPP permit with a timely and complete application, if in the future the source becomes a major source of emissions for purposes of the CAAPP.

2.3 If potential emissions of PM, PM10 and other PSD pollutants from the plant are limited to less than 100 tons per year of each pollutant, and if potential emissions of PM, PM_{10} and other PSD pollutants from the plant and the increase in emissions of the elevator from activities to support the plant are each limited so that the totals are less than 100 tons per year of each pollutant. However, the potential emissions of PM, PM_{10} and other PSD pollutants from the plant and the elevator, as a whole, are not limited so that the totals are less than 100 tons per year of each pollutant.

a. Further Consequences for Control Requirements:

i. Beginning when the ethanol plant initially starts operation, all emission units at the elevator must comply with applicable requirements of 35 IAC 212.462, as the source, i.e., the combination of the elevator and the ethanol plant, is a major source of emissions required to obtain CAAPP permits.

b. Further Consequences for Permitting:

i. The owner or operator of the elevator shall obtain a CAAPP permit for the elevator from the Illinois EPA, applying for such CAAPP permit with a complete application submitted within one year of the initial start of operation of the ethanol plant.

ii. For a future projects proposed for the elevator that would qualify as major modification under the PSD rules, the owner or operator of the elevator shall obtain a Construction Permit/PSD Approval from the Illinois EPA.

2.4 If actual emissions of PM, PM_{10} or other PSD pollutant from the ethanol plant are 100 tons per year or more of a pollutant, notwithstanding permit limits, or actual emissions of PM, PM_{10} or other PSD pollutant from the ethanol plant and the increase in actual emissions of the elevator from activities to support the plant are 100 tons per year or more of a pollutant, notwithstanding permit limits.

a. Further Consequences for Permitting:

i. The owner or operator of the elevator shall obtain a Construction Permit/PSD Approval from the Illinois EPA for new and modified emission units constructed at the elevator to serve the ethanol plant.

b. Further Consequences for Control Requirements:

i. Following issuance of the Construction Permit/PSD Approval, operation and emissions of new and modified emissions units must be managed and controlled so as to comply with limitations set for the units in the Construction Permit/PSD Approval, including requirements establishing Best Available Control Technology (BACT) for such units.

TABLE I

Annual Emission Limitations (Tons/Year)

Emission Unit(s)	NO_x	CO	VOM	PM/PM_{10}	SO_2	Acet.	Other HAP	Total HAP	Ind. HAP
Boilers	52.6	46.0	7.2	10.0	0.8	0.008	2.4	2.4	2.38
Emergency Generator	0.97	0.21	0.1	0.1	0.1	0.001	0.003	0.004	0.001
Grain Receiving and Handling (baghouse, receiver & fugitives)				9.54					
Grain Milling				5.63					
Feed Dryers/Oxidizers	42.6	44.2	52.4	39.0	52.4	2.4	14.6	17.0	8.4
Feed Coolers (Baghouse 1 & 2)			9.3	9.4		0.3	0.82	1.12	0.53
Dry Feed Loadout (Filters & Fugitives)				1.5					
Wet Cake Transfer & Loadout[1]			6.1	0.44					
Ethanol & Denaturant Tanks			2.94			0.01	0.1	0.11	0.05
Incidental AST Tanks			0.44						
Truck and Railcar Loadout (Flare)	0.5	2.4	3.8	0.044	0.044	0.01	1.13	1.14	0.52
Anaerobic Treatment Module Flare	0.2	0.75	0.10	0.044	0.044	0.01	0.02	0.03	0.01
Component Leaks			8.71			0.01	0.01	0.02	0.01
Cooling Tower				5.5					
Miscellaneous Units			0.8			0.07	0.11	0.2	0.01
Plant Roads / Parking Areas				15.3					
Totals	96.87	93.56	85.79	96.30	53.4	2.82	19.2	22.10	

[1] Emissions from handling and loadout of wet cake offset the emissions by a greater reduction in emissions from the feed dryers, so they do not add to total plant emissions.