

**AIR EMISSION PERMIT NO. 03900028- 010
IS ISSUED TO**

AL-CORN CLEAN FUEL
797 5th Street
Claremont, Dodge County, MN 55924

The emission units, control equipment and emission stacks at the stationary source authorized in this permit are as described in the following permit application(s):

Permit Type	Permit action	Application Date	Issuance Date
Total Facility Operating Permit	001	12/21/1995	4/29/1996
Major Amendment	010	03/12/2006	See below
Complete amendment history on page 4			

This permit authorizes the Permittee to operate and modify the stationary source at the address listed above unless otherwise noted in Table A. The Permittee must comply with all the conditions of the permit. Any changes or modifications to the stationary source must be performed in compliance with Minn. R. 7007.1150 to 7007.1500. Terms used in the permit are as defined in the state air pollution control rules unless the term is explicitly defined in the permit.

Permit Type: State; Limits to Avoid Pt 70/Limits to Avoid NSR	Major Amendment
Issue Date: April 29, 1996	Issue Date: December 15, 2006
Expiration: Permit does not expire All Title I Conditions do not expire.	

Richard J. Sandberg, Manager
Air Quality Permits Section
Industrial Division

for Bradley Moore
Acting Commissioner
Minnesota Pollution Control Agency

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NOTICE TO THE PERMITTEE:

Your stationary source may be subject to the requirements of the Minnesota Pollution Control Agency's (MPCA) solid waste, hazardous waste, and water quality programs. If you wish to obtain information on these programs, including information on obtaining any required permits, please contact the MPCA general information number at:

Metro Area	(651) 296-6300
Outside Metro Area	1-800-657-3864
TTY	(651) 282-5332

The rules governing these programs are contained in Minn. R. chs. 7000-7105. Written questions may be sent to: Minnesota Pollution Control Agency, 520 Lafayette Road North, St. Paul, Minnesota 55155-4194.

Questions about this air emission permit or about air quality requirements can also be directed to the telephone numbers and address listed above.

PERMIT SHIELD:

Subject to the limitations in Minn. R. 7007.1800, compliance with the conditions of this permit shall be deemed compliance with the specific provision of the applicable requirement identified in the permit as the basis of each condition. Subject to the limitations of Minn. R. 7007.1800 and 7017.0100, subp. 2, notwithstanding the conditions of this permit specifying compliance practices for applicable requirements, any person (including the Permittee) may also use other credible evidence to establish compliance or noncompliance with applicable requirements.

FACILITY DESCRIPTION:

Al-Corn Clean Fuel is a fuel grade dry-mill ethanol plant located approximately one half mile west of Claremont, Minnesota, on Highway 14. The plant, as initially designed, used four million bushels of corn per year to produce ten million gallons of fuel grade ethanol. The facility currently has a permitted production capacity of 34.9 million-gallon-per-year (MMGal/yr) and this permit is increasing the production capacity to 50 MMGal/yr. A by-product of the ethanol process is Dry Distillers Grain with Solubles (DDGS) which is used as livestock feed.

The facility accepted limits on the amounts of particulate matter and volatile organic compounds that could be emitted to the atmosphere, so that it is classified as a non-major source under both the Part 70 program (40 CFR § 70.2) and the federal New Source Review program (40 CFR § 52.21). The facility will be limited to a production capacity of 50 MMGal/year of undenatured ethanol; and a throughput capacity of 518,000 tons/year of grain and 175,000 tons/year of DDGS.

PERMIT ACTION 010

This permit action authorizes an increase in production from 34.9 million gallons per year to 50 million gallons per year. Physical changes associated with this production increase include an additional corn storage bin (EU054), one new hammermill (EU055), two new fermenters (EU057 and EU058, four existing fermenters will be retired, EU009, EU010, EU011, and EU012), restarting an existing distillation system if needed (EU059, EU060, EU061, EU062, and EU066), an additional cooling tower cell, a second ethanol truck loadout (EU065), and new backup electrical generating capacity if needed (EU063 and EU064).

Additional air pollution control equipment to be installed includes permanent routing of distillation vent gases to the existing TO/HRSG, replacement of the existing fermentation scrubber (CE003) with a new, larger scrubber (CE010), and ducting the new hammermill into the existing hammermill baghouse.

AMENDMENT HISTORY

Permit Type	Permit action	Application Date	Issuance Date
Major Amendment	002	05/08/1997	7/25/1997
Major Amendment	003	05/28/1998	9/28/1998
Major Amendment	004	05/10/1999	10/21/1999
Major Amendment	005	withdrawn	Withdrawn
Major Amendment	006	2/20/2001	6/1/2001
Major Amendment	007	10/17/2001	4/19/2002
Major Amendment	008	5/30/2002	1/13/2003
Major Amendment	009	3/31/2003	1/10/2005
		9/17/2004	
Major Amendment	010	03/12/2006	See cover

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: AI-Corn Clean Fuel
 Permit Number: 03900028 - 010

Table A contains limits and other requirements with which your facility must comply. The limits are located in the first column of the table (What To do). The limits can be emission limits or operational limits. This column also contains the actions that you must take and the records you must keep to show that you are complying with the limits. The second column of Table A (Why to do it) lists the regulatory basis for these limits. Appendices included as conditions of your permit are listed in Table A under total facility requirements.

Subject Item: Total Facility

What to do	Why to do it
<p>This facility and the EPCO Carbon Dioxide Products Inc. facility constitute a single stationary source under 40 CFR 52.21 and 40 CFR 70.2. EPCO operates under a separate air permit, Permit No. 03900031-002.</p> <p>All permit amendment requests must assess the potential emissions and potential emissions increases at both companies when modifications are proposed.</p>	<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>
<p>This permit shall not alter or affect the liability of an owner or operator for any violation of applicable requirements prior to or at the time of permit issuance.</p>	<p>Minn. R. 7007.1800 (C)(2)</p>
<p>FACILITY-WIDE LIMITS</p>	<p>hdr</p>
<p>Volatile Organic Compounds: less than or equal to 95.0 tons/year using 12-month Rolling Sum Monitoring and other limits to support this limit are found at GP002, GP005, SV003, SV012, EU042, CE003, CE010, and FS004.</p>	<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>
<p>Carbon Monoxide: less than or equal to 95.0 tons/year using 12-month Rolling Sum Monitoring and other limits to support this limit are found at GP007, SV012, and EU042.</p>	<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>
<p>HAP-Single: less than or equal to 9.0 tons/year using 12-month Rolling Sum Monitoring and other limits to support this limit are found at GP002, GP005, SV003, SV012, EU042, CE003, CE010, and FS004.</p>	<p>Title I Condition: To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>
<p>HAPs - Total: less than or equal to 24.0 tons/year using 12-month Rolling Sum Monitoring and other limits to support this limit are found at GP002, GP005, SV003, SV012, EU042, CE003, CE010, and FS004.</p>	<p>Title I Condition: To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>
<p>PRODUCTION, OPERATING, AND PERFORMANCE TEST REQUIREMENTS</p>	<p>hdr</p>
<p>Production: less than or equal to 50 million gallons/year using 12-month Rolling Sum of ethanol (200-proof, prior to addition of denaturant).</p>	<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>
<p>Process Throughput: less than or equal to 518,000 tons/year using 12-month Rolling Sum of grain assuming 56 pounds per bushel of grain. This is equivalent to 18.52 million bushels pr year.</p>	<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>
<p>Process Throughput: less than or equal to 175,070 tons/year using 12-month Rolling Sum of distillers dry grains (DDGS).</p>	<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200.</p>
<p>Circumvention: Do not install or use a device or means that conceals or dilutes emissions, which would otherwise violate a federal or state air pollution control rule, without reducing the total amount of pollutant emitted.</p>	<p>Minn. R. 7011.0020</p>
<p>Air Pollution Control Equipment: Operate all pollution control equipment whenever the corresponding process equipment and emission units are operated, unless otherwise noted in Table A.</p>	<p>Minn. R. 7007.0800, subp. 2; Minn. R. 7007.0800, subp. 16(J)</p>
<p>Operation and Maintenance Plan: Retain at the stationary source an operation and maintenance plan for all air pollution control equipment. At a minimum, the O & M plan shall identify all air pollution control equipment and control practices and shall include a preventative maintenance program for the equipment and practices, a description of (the minimum but not necessarily the only) corrective actions to be taken to restore the equipment and practices to proper operation to meet applicable permit conditions, a description of the employee training program for proper operation and maintenance of the control equipment and practices, and the records kept to demonstrate plan implementation.</p>	<p>Minn. R. 7007.0800, subp. 14 and Minn. R. 7007.0800, subp. 16(J)</p>
<p>Fugitive Emissions: Do not cause or permit the handling, use, transporting, or storage of any material in a manner which may allow avoidable amounts of particulate matter to become airborne. Do not cause or permit a building or its appurtenances or an open area to be constructed, used, repaired, or demolished without applying all such reasonable measures as may be required to prevent particulate matter from becoming airborne.</p>	<p>Minn. R. 7011.0150</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: AI-Corn Clean Fuel
 Permit Number: 03900028 - 010

<p>Inspections: Upon presentation of credentials and other documents as may be required by law, allow the Agency, or its representative, to enter the Permittee's premises, to have access to and copy any records required by this permit, to inspect at reasonable times (which include any time the source is operating) any facilities, equipment, practices or operations, and to sample or monitor any substances or parameters at any location.</p>	<p>Minn. R. 7007.0800, subp. 9(A)</p>
<p>The Permittee shall not produce wetcake except under conditions of shutdown or breakdown of the dryer or associated air pollution control equipment. For each event leading to the production of wetcake, the Permittee shall conduct a root cause failure analysis of the event and submit a report of the analysis to the commissioner within 15 days (a reasonable period of time).</p> <p>Please note that requirements for reporting of shutdowns and breakdowns must be followed as well. Those requirements are outlined below.</p> <p>When wetcake is produced, it will be stored on-site for no more than 72 hours unless the outside temperature is less than 55 degrees F. The facility will in all cases move the wetcake off-site as soon as possible.</p>	<p>Minn. R. 7019.1000, subp. 4 and Minn. R. 7007.0800, subp. 2</p>
<p>Performance Test Notifications and Submittals;</p> <p>Performance Test Notification (written): due 30 days before each Performance Test Performance Test Plan: due 30 days before each Performance Test Performance Test Pre-Test Meeting: due 7 day before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy or CD: due 105 day after each Performance Test. The Notification, Test Plan, and Test Report may be submitted in alternative format as allowed by Minn. R. 7017.2018.</p>	<p>Minn. R. 7017.2030, subp. 1-4; Minn. R. 7017.2018 and Minn. R. 7017.2035, subp. 1-2</p>
<p>Limits set as a result of a performance test (conducted before or after permit issuance) apply until superseded as specified by Minn. R. 7017.2025 following formal review of a subsequent performance test on the same unit.</p>	<p>Minn. R. 7017.2025</p>
<p>RECORDKEEPING</p>	<p>hdr</p>
<p>Recordkeeping: By the 15th day of every month, calculate and record the gallons of 200-proof ethanol produced during the previous month and the gallons of 200-proof ethanol produced during the previous 12 months (12-month rolling sum).</p>	<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>
<p>Recordkeeping: Maintain records describing any insignificant modifications (as required by Minn. R. 7007.1250, subp. 3) or changes contravening permit terms (as required by Minn. R. 7007.1350, subp. 2), including records of the emissions resulting from those changes.</p>	<p>Minn. R. 7007.0800, subp. 5(B)</p>
<p>Recordkeeping: Retain all records at the stationary source for a period of five (5) years from the date of monitoring, sample, measurement, or report, unless specified otherwise in Table A. Records which must be retained at this location include all calibration and maintenance records, all original strip-chart recordings for continuous monitoring instrumentation, records of storage tank dimension measurements, and copies of all reports required by the permit. Records must conform to the requirements listed in Minn. R. 7007.0800, subp. 5(A).</p>	<p>Minn. R. 7007.0800, subp. 5(C)</p>
<p>Fuel Usage Recordkeeping. By the 15th day of each month:</p> <ol style="list-style-type: none"> 1) record the amount of fuel combusted in each diesel engine during the previous calendar month; 2) calculate and record usage for all diesel engines for the previous twelve-month period, and compare to the limit set at the total facility level. 	<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; 40 CFR Section 70.2, and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 5</p>
<p>Operation and Maintenance Plan: Retain at the stationary source an operation and maintenance plan for all air pollution control equipment.</p>	<p>Minn. R. 7007.0800, subp. 14 and Minn. R. 7007.0800, subp. 16(J)</p>
<p>MONITORING</p>	<p>hdr</p>
<p>Monitoring Equipment Calibration: Annually calibrate all required monitoring equipment (any requirements applying to continuous emission monitors are listed separately in this permit).</p>	<p>Minn. R. 7007.0800, subp. 4(D)</p>
<p>Operation of Monitoring Equipment: Unless otherwise noted in Tables A and/or B, monitoring a process or control equipment connected to that process is not necessary during periods when the process is shutdown, such as for system breakdowns, repairs, calibration checks, and zero and span adjustments (as applicable). Monitoring records should reflect any such periods of process shutdown.</p>	<p>Minn. R. 7007.0800, subp. 4(D)</p>
<p>NOTIFICATIONS AND SUBMITTALS</p>	<p>hdr</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: AI-Corn Clean Fuel
 Permit Number: 03900028 - 010

<p>Shutdowns: Notify the Commissioner at least 24 hours in advance of a planned shutdown, or as soon as possible after an unplanned shutdown of any process or control equipment, if the shutdown would cause an increase in the emission of any regulated air pollutant. At the time of notification, notify the Commissioner of the cause of the shutdown and the estimated duration. Notify the Commissioner again when the shutdown is over.</p>	Minn. R. 7019.1000, subp. 3
<p>Breakdowns: Notify the Commissioner within 24 hours after a breakdown of more than one hour duration of any process or control equipment if the breakdown causes an increase in the emission of any regulated air pollutant. At the time of notification or as soon thereafter as possible, the Permittee shall also notify the Commissioner of the cause of the breakdown and the estimated duration. Notify the Commissioner again when the breakdown is over.</p>	Minn. R. 7019.1000, subp. 2
<p>Oral Notification of Deviations Endangering Human Health or the Environment: As soon as possible after discovery, notify orally or by facsimile the Commissioner or the state duty officer, of any deviation from permit conditions which could endanger human health or the environment.</p>	Minn. R. 7019.1000, subp. 1
<p>Written Notification of Deviations Endangering Human Health or the Environment: within two (2) working days after discovery, notify the Commissioner in writing of any deviation from permit conditions which could endanger human health or the environment. Include the following information in this written description: cause of the deviation; exact dates of the period of the deviation; if the deviation has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the deviation.</p>	Minn. R. 7019.1000, subp. 1
<p>Application for Permit Amendment: If you need a permit amendment, submit application in accordance with the requirements of Minn. R. 7007.1150 through Minn. R. 7007.1500. Submittal dates vary, depending on the type of amendment needed.</p>	Minn. R. 7007.1150 through Minn. R. 7007.1500
<p>Emission Inventory Report: due on or before April 1 of each calendar year following permit issuance. To be submitted on a form approved by the Commissioner.</p>	Minn. R. 7019.3000 through Minn. R. 7019.3100
<p>Emission Fees: due 60 days after receipt of an MPCA bill</p>	Minn. R. 7002.0005 through Minn. R. 7002.0095
<p>Extension Requests: The permittee may apply for an Administrative Amendment to extend a deadline in a permit by no more than 120 days, provided the proposed deadline extension meets the requirements of Minn. R. 7007.1400, subp. 1(H).</p>	Minn. R. 7007.1400, subp. 1(H)
<p>REMODELING REQUIREMENTS</p>	hdr
<p>Parameters Used in Modeling: The parameters used in the modeling performed for an Environmental Assessment Worksheet under Minn. R. ch. 4410 for this facility are listed in Appendix 1 of this permit. If the Permittee intends to change any of these parameters, the Permittee must submit the revised parameters to the Commissioner and receive written approval before making any changes. The revised parameter information submittal must include, but is not limited to: the locations, heights and diameters of the stacks; locations and dimensions of nearby buildings; velocity and temperatures of the gases emitted; and the emission rates. The plume dispersion characteristics due to the parameter revisions must equal or exceed the dispersion characteristics modeled for this permit, and the Permittee shall demonstrate this in the proposal.</p>	Minn. R. 7009.0020; Minn. R. 7007.0800, subp. 2
<p>continued If the information does not demonstrate equivalent or better dispersion characteristics, or if a conclusion cannot readily be made about the dispersion, the Permittee must remodel.</p>	CONTINUED: Minn. R. 7009.0020; Minn. R. 7007.0800, subp. 2
<p>continued For changes that do not involve an increase in an emission rate and that do not require a permit amendment, the proposal must be submitted as soon as practicable, but no less than 60 days before making the change to any parameter.</p>	CONTINUED: Minn. R. 7009.0020; Minn. R. 7007.0800, subp. 2
<p>continued Parameters Used in Modeling (continued): For changes involving increases in emission rates and that require a minor permit amendment, the proposal must be submitted as soon as practicable, but no less than 60 days before making the change to any parameter. For changes involving increases in emission rates and that require a permit amendment other than a minor amendment, the proposal must be submitted prior to or with the permit amendment application. This is a state only requirement and is not enforceable by the EPA Administrator and citizens under the Clean Air Act.</p>	CONTINUED: Minn. R. 7009.0020; Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: AI-Corn Clean Fuel
 Permit Number: 03900028 - 010

Subject Item: GP 001 Baghouse Monitoring and Maintenance

- Associated Items:** CE 001 Fabric Filter - Low Temperature, i.e., T<180 Degrees F
 CE 002 Fabric Filter - Low Temperature, i.e., T<180 Degrees F
 CE 007 Fabric Filter - Low Temperature, i.e., T<180 Degrees F
 CE 009 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

What to do	Why to do it
The Permittee shall operate and maintain the fabric filter at all times that any emission unit controlled by the fabric filter is in operation. The Permittee shall document periods of non-operation of the control equipment.	Title I Condition: To avoid major source and modification classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid classification as a major source under 40 CFR Section 70.2 and Minn. R. 7007.0200
The Permittee shall operate and maintain the fabric filter in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff. For fabric filters for which there is no pressure drop range specified in this permit, the O & M Plan shall include a record of the typical operating range.	Minn. R. 7007.0800, subp. 14
Visible Emissions: The Permittee shall check each fabric filter stack/exhaust for any visible emissions once each day of operation during daylight hours. For filters which exhaust outside, during inclement weather, the Permittee shall read and record the pressure drop across the fabric filter, once each day of operation.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 4 and 5
Recordkeeping of Visible Emissions and Pressure Drop. The Permittee shall record the time and date of each visible emission inspection and whether or not any visible emissions were observed, or pressure drop reading (if recorded in place of visible emissions) and whether or not the observed pressure drop was within the range specified in this permit or the O & M Plan.	Title I Condition: To avoid major source and modification classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid classification as a major source under 40 CFR Section 70.2 and Minn. R. 7007.0200
Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - visible emissions are observed; - the recorded pressure drop is outside the required operating range; or - the fabric filter or any of its components are found during the inspections to need repair. Corrective actions shall return the pressure drop to within the permitted range, eliminate visible emissions, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter.	Minn. R. 7007.0800, subp. 4, 5, and 14
Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored fabric filter is in operation.	Minn. R. 7007.0800, subp. 4
Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.	Minn. R. 7007.0800, subp. 4, 5 and 14

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: AI-Corn Clean Fuel

Permit Number: 03900028 - 010

Subject Item: GP 002 Scrubber Monitoring and Maintenance

Associated Items: CE 003 Packed-Gas Adsorption Column

CE 005 Packed-Gas Adsorption Column

CE 010 Packed-Gas Adsorption Column

What to do	Why to do it
Permit Action 010 authorizes the replacement of CE003 with CE010. Under Permit Action 010, emissions from CE005 will be routed to the thermal oxidizer after which CE005 will no longer be subject to GP002 requirements.	hdr
Operation and Maintenance of Scrubber: The Permittee shall operate and maintain each scrubber according to the control equipment manufacturer's specifications.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 14
Pressure Drop and Water Flow Rate Monitoring and Recordkeeping: Once each day of operation of any GP 002 scrubber (CE 003/SV 003 and CE 010/SV 003), the Permittee shall observe and record the pressure differential and water flow rate of each scrubber, and record the time and date of each observation.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 4 and 5
Corrective Action: If the pressure drop is not within the prescribed range and/or the flow rate is not equal to or greater than the minimum value specified herein (see CE003 and CE010), the Permittee shall take corrective action as soon as possible to achieve the required operating values. The Permittee shall keep a record of the type and date of all corrective actions taken.	Minn. R. 7007.0800, subp. 4, 5, and 14
Inspect quarterly, or as required by manufacturing specifications, all components that are not subject to wear or plugging, including structural components, housing, ducts, and hoods. Maintain a written record of the inspection and any action resulting from the inspection.	Minn. R. 7007.0800, subp. 2 and subp. 14
Inspect quarterly, or as required by manufacturing specifications, all components that are subject to wear or plugging. Maintain a written record of the inspection and any action resulting from the inspection.	Minn. R. 7007.0800, subp. 2 and subp. 14
Calibrate the gauges annually, or as often as required by manufacturing specifications and maintain a written record of the calibration and any action resulting from the calibration.	Minn. R. 7007.0800, subp. 2 and subp. 14

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-6 01/16/07

Facility Name: AI-Corn Clean Fuel

Permit Number: 03900028 - 010

Subject Item: GP 004 Tanks 1 and 3**Associated Items:** TK 001 190 Proof Ethanol (150.4 cu m)

TK 003 Denaturant (68.1 cu m)

What to do	Why to do it
Recordkeeping: Maintain records showing the dimensions of each tank and an analysis showing the tank capacity for TK 001 and TK 003.	40 CFR Section 60.116b(b); Minn. R. 7011.1520 (C)
Notification: Notify the Administrator within 30 days when the maximum true vapor pressure exceeds 27.6 kPa in TK 001.	40 CFR Section 60.116b(d); Minn. R. 7011.1520 (C)

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: AI-Corn Clean Fuel

Permit Number: 03900028 - 010

Subject Item: GP 005 Tanks 2, 4, 5, and 6

- Associated Items:** TK 002 Denaturant (150.4 cu m)
 TK 004 200 proof Ethanol (454.3 cu m)
 TK 005 200 proof Ethanol (454.3 cu m)
 TK 006 Denatured Ethanol (1893 cu m)

What to do	Why to do it
A. POLLUTION CONTROL REQUIREMENTS	hdr
Each GP 005 storage vessel shall be equipped with a fixed roof in combination with an internal floating roof meeting the specifications of paragraph (a)(1) of this section.	40 CFR Section 60.112b(a); Minn. R. 7011.1520(C)
Internal Floating Roof Seal Requirement: Each internal roof shall be equipped with one of the closure devices between the wall of the storage vessel and the edge of the internal floating roof as described in Section 60.112b(a)(1)(ii).	40 CFR Section 60.112b(a)(1)(ii); Minn. R. 7011.1520(C)
B. MONITORING REQUIREMENTS	hdr
Inspection - Prior to Initial Fill of TK 002 and TK 006: Visually inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service), prior to filling the storage vessel with Volatile Organic Liquid (VOL). If there are holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric, or defects in the internal floating roof, or both, the owner or operator shall repair the items before filling the storage vessel.	40 CFR Section 60.113b(a)(1); Minn. R. 7011.1520(C)
Inspection - Annual: Visually inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service) through manholes and roof hatches on the fixed roof at least once every twelve (12) months after initial fill as required by Section 60.113b(a)(2).	40 CFR Section 60.113b(a)(2) and (4); Minn. R. 7011.1520(C)
Inspection - Tank Empty and Degassed: Visually inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service), gaskets, slotted membranes and sleeve seals (if any) each time the tank is emptied and degassed as required by Section 60.113b(a)(4). In no event shall inspections conducted in accordance with this provision occur at intervals greater than 10 years.	40 CFR Section 60.113b(a)(4) and (4); Minn. R. 7011.1520(C)
C. RECORDKEEPING REQUIREMENTS	hdr
Keep a record of each inspection performed as required by 40 CFR Section 60.113b(a). Each record shall identify the storage vessel on which the inspection was performed and shall contain the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings).	40 CFR Section 60.115b(a)(2); Minn. R. 7011.1520(C)
Recordkeeping: Maintain records showing the dimensions of each tank and an analysis showing the tank capacity.	40 CFR Section 60.116b(b); Minn. R. 7011.1520 (C)
Recordkeeping: Maintain records of the VOL stored, the period of storage, and the maximum true vapor pressure of the VOL during the respective storage period, calculated as described in 40 CFR Section 60.116b(e).	40 CFR Section 60.116b(c); Minn. R. 7011.1520 (C)
D. REPORTING REQUIREMENTS	hdr
Notification: Notify the Administrator in writing at least 30 days prior to the filling or refilling of each tank for which an inspection is required by paragraphs (a)(1) and (a)(4) of this section to afford the administrator the opportunity to have an observer present. If the inspection required by paragraph (a)(4) of this section is not planned and the Permittee could not have known about the inspection 30 days in advance of refilling the tank, the owner or operator shall notify the Administrator at least 7 days prior to the refilling of the tank. Notification shall be made by telephone 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 Administrator at least 7 days prior to the refilling.	40 CFR Section 60.113b(a)(5); Minn. R. 7011.1520(C)
After each inspection required by 40 CFR Section 60.113b(a)(3) that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in 40 CFR Section 60.113b(a)(3)(ii), a report shall be furnished to the Administrator within thirty (30) days of the inspection. The report shall identify the storage vessel and the reason it did not meet the specifications of 40 CFR Section 60.112b(a)(1) or 40 CFR Section 60.113b(a)(3)(ii) and list each repair made.	40 CFR Section 60.115b(a)(4); Minn. R. 7011.1520(C)

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-8

01/16/07

Facility Name: AI-Corn Clean Fuel

Permit Number: 03900028 - 010

Notification - Control Equipment Installation and Certification: After installing the internal floating roof in TK 002 and the fixed roof/internal floating roof combination in TK 006, furnish the Administrator with a report describing the control equipment (fixed roof/internal floating roof combination) and certifying that the control equipment meets the specifications of Sections 60.112b(a)(1) and 60.113b(a)(1). This report shall be attached to the initial startup notification required by Section 60.7(a)(3) and located in Table B of this permit.	40 CFR Section 60.115b(a)(1); Minn. R. 7011.1520(C)
Reporting - Annual Inspection Results: If any of the conditions described in Section 60.113b(a)(2) are detected during the annual visual inspection required by Section 60.113b(a)(2), a report shall be furnished to the Administrator 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 Section 60.115b(a)(3); Minn. R. 7011.1520(C)

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Al-Corn Clean Fuel

Permit Number: 03900028 - 010

Subject Item: GP 006 Fuel Requirements: Dryers, Boiler and thermal oxidizer

Associated Items: EU 013 DDGS Dryer #1 (SV 012)

EU 017 Boiler #1

EU 037 DDGS Dryer #2 (SV 012)

EU 042 TO/ Heat Recovery Boiler

What to do	Why to do it
Nitrogen Oxides: less than or equal to 0.04 lbs/million Btu heat input when burning natural gas. Applies individually to each emission unit.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Nitrogen Oxides: less than or equal to 0.08 lbs/million Btu heat input when burning propane. Applies individually to each emission unit.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Operating Hours: less than or equal to 500 hours/year using 12-month Rolling Sum of operation with propane. Applies individually to each emission unit.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: AI-Corn Clean Fuel

Permit Number: 03900028 - 010

Subject Item: GP 007 Facility Generators

- Associated Items:** EU 046 Office 25 KW Generator, natural gas
 EU 047 Well House 375 KW Generator, diesel
 EU 048 Dryer 1300 KW Generator, diesel
 EU 049 Dryer #2 Load Generator, diesel
 EU 050 Boiler/Radial Feed 2000 KW Generator, diesel
 EU 053 Dryer 2000 KW Generator, diesel
 EU 063 Dryer Load Model D2000 FRZ4 - 2000kw, diesel
 EU 064 Process Equipment Model D2000 FRZ4-2000kw, diesel

What to do	Why to do it
Permit action 010 authorizes the installation of EU063 and EU064. Either EU048 or EU049 must be retired from service upon startup of EU063, and the remaining unit (EU048 or EU049) must be retired upon startup of EU064.	hdr
Opacity: less than or equal to 20 percent opacity once operating temperatures have been attained. This limit applies individually to each emission unit in GP 007.	Minn. R. 7011.2300, subp. 1
Sulfur Dioxide: less than or equal to 0.5 lbs/million Btu heat input for each emission unit in GP 007.	Minn. R. 7011.2300, subp. 2
<p>Diesel Fuel Supplier Certification: The Permittee shall obtain a certification from the diesel fuel supplier for each fuel delivery, that specifies the percent sulfur by weight in the diesel fuel. All certifications shall be maintained for five years from the date of receipt.</p> <p>Note: Diesel fuel with a 0.49% sulfur content by weight will emit 0.50 lbs SO₂ per MMBtu heat input.</p>	Minn. R. 7007.0800, subp. 4 and 5
Fuel Usage: less than or equal to 83,715 gallons/year using 12-month Rolling Sum for the total facility diesel fuel limit for all of the diesel generators on site.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
<p>Engine-Generator Natural Gas Fuel Use Limits:</p> <p>Total natural gas used in all on-site engines is limited to less than 90,000 cf per year, as a 12-month rolling sum</p> <p>Any natural gas fueled engine generators installed at the AI-corn site are subject to the above limit. The Permittee may take the above usage limit into account when determining the type of permit amendment needed to install a natural gas fueled engine generator.</p>	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
<p>Fuel Usage Recordkeeping. By the 15th day of each month:</p> <ol style="list-style-type: none"> 1) record the amount of fuel combusted in each diesel engine during the previous calendar month; 2) calculate and record usage for all diesel engines for the previous twelve-month period. 	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: AI-Corn Clean Fuel

Permit Number: 03900028 - 010

Subject Item: SV 001 (CE 001 fabric filter)

- Associated Items:**
- EU 003 Scalper
 - EU 004 Corn Bin
 - EU 005 Corn Bin
 - EU 006 Corn Bin
 - EU 007 Corn Bin
 - EU 014 DDGS Dump Pit
 - EU 015 DDGS Elevator
 - EU 016 DDGS Loadout (truck)
 - EU 033 DDGS Loadout (railcar)
 - EU 035 Corn Bin
 - EU 054 Corn Bin #6

What to do	Why to do it
Permit Action 010 authorizes the installation of EU054.	hdr
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.005 grains/dry standard cubic foot of exhaust air	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7005.0100, subp. 35a; Minn. R. 7011.1005, subp. 3(D)
Opacity: less than or equal to 10 percent opacity	Minn. R. 7011.1005, subp. 3(D)
POLLUTION CONTROL REQUIREMENTS	hdr
Total Particulate Matter: greater than or equal to 79.2 percent capture efficiency and collection efficiency combined for the dump pit, and combined efficiency of 19.8% for the DDGS handling. Potential PM emissions based on AP-42 emissions factors, 42.1 ton/hr corn throughput, and the above collection/capture efficiencies are 0.34 lb/hr.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7005.0100, subp. 35a
Particulate Matter < 10 micron: greater than or equal to 99 percent capture efficiency and collection efficiency combined for the dump pit, and combined efficiency of 19.8% for the DDGS handling. Potential PM10 emissions based on AP-42 emissions factors, 42.1 ton/hr corn throughput, and the above collection/capture efficiencies are 0.17 lb/hr.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7005.0100, subp. 35a
Pressure Drop: greater than or equal to 1 inches of water column and less than or equal to 6 inches of water column for CE 001. See GP 001 for additional CE 001 requirements.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 14

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: AI-Corn Clean Fuel

Permit Number: 03900028 - 010

Subject Item: SV 002 (CE002 fabric filter)

Associated Items: EU 008 Hammermill #1

EU 041 Hammermill #2

EU 055 Hammermill #3

What to do	Why to do it
Permit Action 010 authorizes the installation of EU055.	hdr
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.005 grains/dry standard cubic foot of exhaust air	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7005.0100, subp. 35a; Minn. R. 7011.1005, subp. 3(D)
Opacity: less than or equal to 10 percent opacity	Minn. R. 7011.1005, subp. 3(D)
POLLUTION CONTROL REQUIREMENTS	hdr
Total Particulate Matter: greater than or equal to 99 percent collection efficiency . Potential PM emissions based on AP-42 emissions factors, 42.1 ton/hr corn throughput, and 99% collection efficiency are 0.44 lb/hr.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000;
Particulate Matter < 10 micron: greater than or equal to 99 percent collection efficiency . Potential PM10 emissions based on AP-42 emissions factors, 42.1 ton/hr corn throughput, and 99% collection efficiency are 0.44 lb/hr.	to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: AI-Corn Clean Fuel

Permit Number: 03900028 - 010

Subject Item: SV 003 (CE010 fermentation scrubber, replaces CE003)

- Associated Items:**
- EU 009 Fermenter #1
 - EU 010 Fermenter #2
 - EU 011 Fermenter #3
 - EU 012 Fermenter #4
 - EU 032 Process water, no emissions
 - EU 038 Fermenter
 - EU 039 Fermenter
 - EU 045 Fermenter
 - EU 052 Beerwell
 - EU 057 Fermentor #8
 - EU 058 Fermenter #9

What to do	Why to do it
Permit action 010 authorizes the installation of fermenters EU057 and EU058, and CE010 to replace CE003. Fermenters EU009, 010, 011 and 012 will be converted to water tanks after startup of EU057 and EU058.	hdr
EMISSION LIMITS	hdr
Volatile Organic Compounds: less than or equal to 9.6 lbs/hour as total mass VOC's.	Title I Condition: BACT - equivalent emission limit pursuant to consent decree entered into under 40 CFR Sec. 52.21 and Minn. R. 7007.3000
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0715, subp. 1(B)
TESTING REQUIREMENTS	hdr
Performance Test: due 180 days after Startup of the expansion authorized by permit action 010 to measure SV 003 VOC emissions. Additional General Performance Test Requirements are listed in Table A in the Total Facility Section of this permit.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7017.2020, subp. 1

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: AI-Corn Clean Fuel

Permit Number: 03900028 - 010

Subject Item: SV 007 (CE 005 distillation scrubber)

- Associated Items:** EU 020 Slurry Tank
 EU 021 Liquefaction Tank
 EU 022 Liquefaction Tank
 EU 023 Yeast Tank
 EU 024 Side Stripper
 EU 028 Molecular Sieve
 EU 029 Evaporator
 EU 043 Rectifier
 EU 044 Beer Stripper

What to do	Why to do it
Under permit action 010, the exhaust from SV007 will be routed to EU042 (the TO) and exhaust through SV012. Thus, on completion of construction under permit 010, SV007 will no longer vent directly to atmosphere, and the following limits will no longer apply to SV007.	hdr
EMISSION LIMITS	hdr
Volatile Organic Compounds: less than or equal to 0.30 lbs/hour as total mass VOC's.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0715, subp. 1(B)

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: AI-Corn Clean Fuel

Permit Number: 03900028 - 010

Subject Item: SV 008 DDGS Cooling cyclone

Associated Items: EU 018 DDGS Cooling Cyclone

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 5.87 lbs/hour	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000;
Total Particulate Matter: less than or equal to 0.093 grains/dry standard cubic foot of exhaust air, or the allowable concentration at the actual exhaust flow rate, as described in Minn. R. 7011.0735.	Minn. R. 7011.1005, subp. 3(D)
Particulate Matter < 10 micron: less than or equal to 5.87 lbs/hour	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Volatile Organic Compounds: less than or equal to 4.0 lbs/hour as total mass VOC's.	Title I Condition: BACT - equivalent emission limit pursuant to consent decree entered into under 40 CFR Sec. 52.21 and Minn. R. 7007.3000
Opacity: less than or equal to 10 percent opacity	Minn. R. 7011.1005, subp. 3(D)
TESTING REQUIREMENTS	hdr
Performance Test: due 180 days after Startup of the expansion authorized by permit action 010 to measure PM emissions. Additional General Performance Test Requirements are listed in Table A in the Total Facility Section of this permit.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7017.2020, subp. 1
Performance Test: due 180 days after Startup of the expansion authorized by permit action 010 to measure PM10 emissions. Additional General Performance Test Requirements are listed in Table A in the Total Facility Section of this permit.	Title I Condition: To avoid major source classification under 40 CFR Sections 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2; Minn. R. 7017.2020, subp. 1

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: AI-Corn Clean Fuel

Permit Number: 03900028 - 010

Subject Item: SV 012 (CE 004 and CE 006 multiple cyclone - oxidizer)

- Associated Items:** EU 013 DDGS Dryer #1 (SV 012)
 EU 020 Slurry Tank
 EU 021 Liquefaction Tank
 EU 022 Liquefaction Tank
 EU 023 Yeast Tank
 EU 024 Side Stripper
 EU 028 Molecular Sieve
 EU 029 Evaporator
 EU 037 DDGS Dryer #2 (SV 012)
 EU 042 TO/ Heat Recovery Boiler
 EU 043 Rectifier
 EU 044 Beer Stripper
 EU 059 Molecular Sieve #2
 EU 060 Evaporator #2
 EU 061 Rectifier #2
 EU 062 Beer Stripper #2
 EU 066 Side Stripper #2

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 7.0 lbs/hour	Title I Condition: BACT - equivalent emission limit pursuant to consent decree entered into under 40 CFR Sec. 52.21 and Minn. R. 7007.3000
Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735.	Minn. R. 7011.0610, subp. 1(A)(1)
Particulate Matter < 10 micron: less than or equal to 7.0 lbs/hour	Title I Condition: BACT - equivalent emission limit pursuant to consent decree entered into under 40 CFR Sec. 52.21 and Minn. R. 7007.3000
Volatile Organic Compounds: less than or equal to 2.5 lbs/hour as total mass VOC's.	Title I Condition: BACT - equivalent emission limit pursuant to consent decree entered into under 40 CFR Sec. 52.21 and Minn. R. 7007.3000
Sulfur Dioxide: less than or equal to 9.13 lbs/hour for natural gas combustion and syrup combustion	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid classification as a major source under 40 CFR Section 70.2 and Minn. R. 7007.0200
Carbon Monoxide: less than or equal to 19.5 lbs/hour	Title I Condition: BACT - equivalent emission limit pursuant to consent decree entered into under 40 CFR Sec. 52.21 and Minn. R. 7007.3000
Hydrochloric acid: less than or equal to 9.5 tons/year using 12-month Rolling Sum for syrup combustion	Title I Condition: To avoid classification as a major source under 40 CFR Part 63; to avoid classification as a major source under 40 CFR Section 70.2 and Minn. R. 7007.0200
Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity.	Minn. R. 7011.0610, subp. 1(A)(2)
TESTING REQUIREMENTS	hdr
Performance Test: due 180 days after Startup of the expansion authorized by permit action 010 to measure PM10 emissions, and to verify the NOx emission factor while combusting natural gas (9.00 E-05 lb/cu ft of natural gas at 1050 Btu/cu. ft.) Testing shall be conducted while both dryers are operating. Additional General Performance Test Requirements are listed in Table A in the Total Facility Section of this permit.	Title I Condition: Emissions testing for BACT - equivalent emission limit under 40 CFR Section 52.21; Minn. R. 7017.2020, subp. 1

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-17

01/16/07

Facility Name: AI-Corn Clean Fuel

Permit Number: 03900028 - 010

Performance Test: due 180 days after Startup of the expansion authorized by Permit Action 010 to measure PM emissions. Testing shall be conducted while both dryers are operating. Additional General Performance Test Requirements are listed in Table A in the Total Facility Section of this permit.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; Minn. R. 7017.2020, subp. 1
Performance Test: due 180 days after Startup of the expansion authorized by Permit Action 010 to measure VOC emissions. During this test, there shall be no scrubbing water feed to CE005.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; Minn. R. 7017.2020, subp. 1
Performance Test: due 180 days after Startup of the expansion authorized by Permit Action 010 to measure opacity.	Minn. R. 7017.2020, subp. 1

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-18

01/16/07

Facility Name: AI-Corn Clean Fuel

Permit Number: 03900028 - 010

Subject Item: EU 013 DDGS Dryer #1 (SV 012)**Associated Items:** CE 004 Multiple Cyclone w/o Fly Ash Reinjection - Most Multiclones

CE 006 Multiple Cyclone w/o Fly Ash Reinjection - Most Multiclones

GP 006 Fuel Requirements: Dryers, Boiler and thermal oxidizer

SV 012 (CE 004 and CE 006 multiple cyclone - oxidizer)

What to do	Why to do it
Fuels: Natural gas alone, or natural gas and syrup with syrup providing 33% or less of heat input	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR 70.2 and Minn. R. 7007.0200

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-19

01/16/07

Facility Name: AI-Corn Clean Fuel

Permit Number: 03900028 - 010

Subject Item: EU 017 Boiler #1**Associated Items:** GP 006 Fuel Requirements: Dryers, Boiler and thermal oxidizer

SV 005 Boiler #1

What to do	Why to do it
Operating Hours: less than or equal to 7500 hours/year using 12-month Rolling Sum	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2; Minn. R. 7007.0800, subp. 2
Install a low-NOx burner on Boiler no. 1.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under and 40 CFR Section 70.2; Minn. R. 7007.0800, subp. 2 Consent Decree para. 15(c)
The Permittee shall record and maintain records of the fuels combusted during each calendar month. This is based on the use of liquid or gaseous fuels with potential sulfur dioxide emissions rate of 140 ng/J (0.32 lb/MMBtu) heat input or less.	40 CFR Section 60.48c(g)

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-20

01/16/07

Facility Name: AI-Corn Clean Fuel

Permit Number: 03900028 - 010

Subject Item: EU 018 DDGS Cooling Cyclone**Associated Items:** SV 008 DDGS Cooling cyclone

What to do	Why to do it
Pressure Drop: greater than or equal to 2 inches of water column and less than or equal to 8 inches of water column for EU 018.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 14
Record pressure drop once each day of operation.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Corrective Action: If the pressure drop is not in the range of values specified herein, the Permittee shall take corrective action as soon as possible to return the pressure drop to within the required operating values. The Permittee shall keep a record of the type and date of all corrective actions taken.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 14
Inspect quarterly, or as required by manufacturing specifications, all components that are not subject to wear or plugging, including structural components, housing, ducts, and hoods. Maintain a written record of the inspection and any action resulting from the inspection.	Minn. R. 7007.0800, subp. 2 and subp. 14
Inspect quarterly, or as required by manufacturing specifications, all components that are subject to wear or plugging. Maintain a written record of the inspection and any action resulting from the inspection.	Minn. R. 7007.0800, subp. 2 and subp. 14
Calibrate the pressure gauge annually, or as often as required by manufacturing specifications and maintain a written record of the calibration and any action resulting from the calibration.	Minn. R. 7007.0800, subp. 2 and subp. 14

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-21

01/16/07

Facility Name: Al-Corn Clean Fuel

Permit Number: 03900028 - 010

Subject Item: EU 037 DDGS Dryer #2 (SV 012)**Associated Items:** CE 006 Multiple Cyclone w/o Fly Ash Reinjection - Most Multiclones

GP 006 Fuel Requirements: Dryers, Boiler and thermal oxidizer

SV 012 (CE 004 and CE 006 multiple cyclone - oxidizer)

What to do	Why to do it
Fuels: Natural gas alone, or natural gas and syrup with syrup providing 33% or less of heat input	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR 70.2 and Minn. R. 7007.0200

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: AI-Corn Clean Fuel

Permit Number: 03900028 - 010

Subject Item: EU 042 TO/ Heat Recovery Boiler

Associated Items: GP 006 Fuel Requirements: Dryers, Boiler and thermal oxidizer

SV 012 (CE 004 and CE 006 multiple cyclone - oxidizer)

What to do	Why to do it
Temperature: greater than or equal to 1436 degrees F using 3-hour Average at the combustion chamber unless a new minimum is required to be set pursuant to Minn. R. 7017.2025, subp. 3. If a new minimum is required to be set, it will be based on the average temperature recorded during the most recent performance test where compliance for VOC emissions was demonstrated. If the three-hour rolling average temperature drops below the minimum temperature limit, the VOC used during that time shall be considered uncontrolled until the average minimum temperature limit is once again achieved. This shall be reported as a deviation.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Carbon Monoxide: greater than or equal to 90.0 percent control efficiency or less than or equal to 100 parts per million.	Title I Condition: BACT-equivalent emission limit pursuant to consent decree entered into under 40 CFR Section 52.21
Volatile Organic Compounds: greater than or equal to 95.0 percent control efficiency or less than or equal to 10 parts per million.	Title I Condition: BACT-equivalent emission limit pursuant to consent decree entered into under 40 CFR Section 52.21
The Permittee shall operate and maintain the thermal oxidizer any time that any process equipment controlled by the thermal oxidizer is in operation.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
<p>Quarterly Inspections: At least once per calendar quarter, the Permittee shall inspect the control equipment internal and external system components, including but not limited to the refractory, heat exchanger, and electrical systems. The Permittee shall maintain a written record of the inspection and any corrective actions taken resulting from the inspection.</p> <p>The Permittee shall inspect the control equipment internal components during all planned shutdowns and not less than annually, including, but not limited to, the refractory.</p>	Minn. R. 7007.0800, subp. 4, 5, and 14
Corrective Actions: If the temperature is below the minimum specified by this permit or if the thermal oxidizer or any of its components are found during the inspections to need repair, the Permittee shall take corrective action as soon as possible. Corrective actions shall return the temperature to at least the permitted minimum and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the thermal oxidizer. The Permittee shall keep a record of the type and date of any corrective action taken.	Minn. R. 7007.0800, subp. 4, 5, and 14
The Permittee shall operate and maintain the thermal oxidizer in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.	Minn. R. 7007.0800, subp. 14
MONITORING REQUIREMENTS	hdr
Monitoring Equipment: The Permittee shall install and maintain thermocouples to conduct temperature monitoring required by this permit. The monitoring equipment must be installed, in use, and properly maintained whenever operation of the monitored control equipment is required.	Minn. R. 7007.0800, subp. 4
The Permittee shall maintain a continuous hard copy readout or computer disk file of the temperature readings and calculated three hour rolling average temperatures for the combustion chamber.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid classification as a major source under 40 CFR Section 70.2; Minn. R. 7007.0800, subp. 4 and 5
Daily Monitoring: The Permittee shall physically verify the operation of the temperature recording device at least once each operating day to verify that it is working and recording properly. The Permittee shall maintain a written record of the daily verifications.	Minn. R. 7007.0800, subp. 4 and 5
Annual Calibration: The Permittee shall calibrate the temperature monitor at least annually and shall maintain a written record of the calibration and any action resulting from the calibration.	Minn. R. 7007.0800, subp. 4, 5, and 14
The Permittee shall maintain and operate a thermocouple monitoring device that continuously indicates and records the combustion chamber temperature of the thermal oxidizer. The monitoring device shall have a margin of error less than the greater of +/- 0.75 percent of the temperature being measured or +/- 2.5 degrees Celsius. The recording device shall also calculate the three-hour rolling average combustion chamber temperature.	Minn. R. 7007.0800, subp. 4 and 5
RECORDKEEPING AND REPORTING	hdr

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-23

01/16/07

Facility Name: Al-Corn Clean Fuel

Permit Number: 03900028 - 010

Recordkeeping: Record and maintain records of the amount of fuel combusted on a monthly basis. These records may consist of purchase records or receipts.	40 CFR Section 60.48(g) and (j); February 20, 1992, EPA Memorandum
Fuel Burned: natural gas only	Minn. Stat. 116.07, subd. 4a; Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-24

01/16/07

Facility Name: AI-Corn Clean Fuel

Permit Number: 03900028 - 010

Subject Item: CE 002 Fabric Filter - Low Temperature, i.e., T<180 Degrees F**Associated Items:** EU 008 Hammermill #1

EU 041 Hammermill #2

EU 055 Hammermill #3

GP 001 Baghouse Monitoring and Maintenance

What to do	Why to do it
Pressure Drop: greater than or equal to 1 inches of water column and less than or equal to 8 inches of water column for CE 002. See GP 001 for additional CE 002 requirements.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 14

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: AI-Corn Clean Fuel

Permit Number: 03900028 - 010

Subject Item: CE 003 Packed-Gas Adsorption Column

- Associated Items:** EU 009 Fermenter #1
 EU 010 Fermenter #2
 EU 011 Fermenter #3
 EU 012 Fermenter #4
 EU 038 Fermenter
 EU 039 Fermenter
 EU 045 Fermenter
 EU 052 Beerwell
 EU 057 Fermenter #8
 EU 058 Fermenter #9
 GP 002 Scrubber Monitoring and Maintenance

What to do	Why to do it
Under Permit Action 010, CE003 will be replaced with CE010, and EU009, EU010, EU011, and EU012 will be converted to water tanks and no longer used as fermenters	hdr
Volatile Organic Compounds: greater than or equal to 95.0 percent control efficiency or less than or equal to 20 parts per million if the inlet concentration is less than 200 parts per million. (See GP 002 for CE 003 monitoring and maintenance requirements).	Title I Condition: BACT - equivalent emission limit pursuant to consent decree entered into under 40 CFR Sec. 52.21 and Minn. R. 7007.3000; Consent Decree 15(b)
Pressure Drop: greater than or equal to 2 inches of water column and less than or equal to 10 inches of water column for CE 003.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 14
Water flow rate: greater than or equal to 20.0 gallons/minute (CE 003 inlet water flow rate) or as determined by the post-expansion performance testing.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 14

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: AI-Corn Clean Fuel

Permit Number: 03900028 - 010

Subject Item: CE 004 Multiple Cyclone w/o Fly Ash Reinjection - Most Multiclones

Associated Items: EU 013 DDGS Dryer #1 (SV 012)

What to do	Why to do it
Total Particulate Matter: greater than or equal to 80 percent control efficiency	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000;
Particulate Matter < 10 micron: greater than or equal to 80 percent control efficiency	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Pressure Drop: greater than or equal to 2 inches of water column and less than or equal to 8 inches of water column	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 14
Record pressure drop once each day of operation.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Corrective Action: If the pressure drop is not in the range of values specified herein, the Permittee shall take corrective action as soon as possible to return the pressure drop to within the required operating values. The Permittee shall keep a record of the type and date of all corrective actions taken.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 14
Inspect quarterly, or as required by manufacturing specifications, all components that are not subject to wear or plugging, including structural components, housing, ducts, and hoods. Maintain a written record of the inspection and any action resulting from the inspection.	Minn. R. 7007.0800, subp. 2 and subp. 14
Inspect quarterly, or as required by manufacturing specifications, all components that are subject to wear or plugging. Maintain a written record of the inspection and any action resulting from the inspection.	Minn. R. 7007.0800, subp. 2 and subp. 14
Calibrate the pressure gauge annually, or as often as required by manufacturing specifications and maintain a written record of the calibration and any action resulting from the calibration.	Minn. R. 7007.0800, subp. 2 and subp. 14

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: AI-Corn Clean Fuel

Permit Number: 03900028 - 010

Subject Item: CE 005 Packed-Gas Adsorption Column

- Associated Items:** EU 020 Slurry Tank
 EU 021 Liquefaction Tank
 EU 022 Liquefaction Tank
 EU 023 Yeast Tank
 EU 024 Side Stripper
 EU 028 Molecular Sieve
 EU 029 Evaporator
 EU 043 Rectifier
 EU 044 Beer Stripper
 EU 059 Molecular Sieve #2
 EU 060 Evaporator #2
 EU 061 Rectifier #2
 EU 062 Beer Stripper #2
 EU 066 Side Stripper #2
 GP 002 Scrubber Monitoring and Maintenance

What to do	Why to do it
After emissions from CE005 are permanently routed to the thermal oxidizer under Permit Action 010, CE005 is no longer subject to these requirements.	hdr
Volatile Organic Compounds: greater than or equal to 94.2 percent control efficiency or less than or equal to 20 parts per million if the inlet concentration is less than 200 parts per million. (See GP 002 for CE 005 monitoring and maintenance requirements).	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Pressure Drop: greater than or equal to 2 inches of water column and less than or equal to 10 inches of water column for CE 005.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 14
Water flow rate: greater than or equal to 3.25 gallons/minute (CE 005 inlet water flow rate)	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 14

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: AI-Corn Clean Fuel

Permit Number: 03900028 - 010

Subject Item: CE 006 Multiple Cyclone w/o Fly Ash Reinjection - Most Multiclones

Associated Items: EU 013 DDGS Dryer #1 (SV 012)

EU 037 DDGS Dryer #2 (SV 012)

What to do	Why to do it
Total Particulate Matter: greater than or equal to 80 percent control efficiency	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000;
Particulate Matter < 10 micron: greater than or equal to 80 percent control efficiency	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Pressure Drop: greater than or equal to 2 inches of water column and less than or equal to 8 inches of water column	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 14
Record pressure drop once each day of operation.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Corrective Action: If the pressure drop is not in the range of values specified herein, the Permittee shall take corrective action as soon as possible to return the pressure drop to within the required operating values. The Permittee shall keep a record of the type and date of all corrective actions taken.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 14
Inspect quarterly, or as required by manufacturing specifications, all components that are not subject to wear or plugging, including structural components, housing, ducts, and hoods. Maintain a written record of the inspection and any action resulting from the inspection.	Minn. R. 7007.0800, subp. 2 and subp. 14
Inspect quarterly, or as required by manufacturing specifications, all components that are subject to wear or plugging. Maintain a written record of the inspection and any action resulting from the inspection.	Minn. R. 7007.0800, subp. 2 and subp. 14
Calibrate the pressure gauge annually, or as often as required by manufacturing specifications and maintain a written record of the calibration and any action resulting from the calibration.	Minn. R. 7007.0800, subp. 2 and subp. 14

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-29

01/16/07

Facility Name: Al-Corn Clean Fuel

Permit Number: 03900028 - 010

Subject Item: CE 007 Fabric Filter - Low Temperature, i.e., T<180 Degrees F**Associated Items:** GP 001 Baghouse Monitoring and Maintenance

What to do	Why to do it
Pressure Drop: greater than or equal to 1 inches of water column and less than or equal to 8 inches of water column for CE 002. See GP 001 for additional CE 002 requirements.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 14

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-30

01/16/07

Facility Name: AI-Corn Clean Fuel

Permit Number: 03900028 - 010

Subject Item: CE 008 Ethanol Loading Rack Flare**Associated Items:** EU 065 Loading Rack #2

What to do	Why to do it
EMISSION LIMITS	hdr
Opacity: less than or equal to 0 percent opacity except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.	Title I Condition: BACT - equivalent emission limit pursuant to consent decree entered into under 40 CFR Sec. 52.21 and Minn. R. 7007.3000; Consent Decree 15(f) and 21
OPERATING REQUIREMENTS	hdr
Fuel usage: The flare shall be used only when the net heating value of the gas being combusted is 300 Btu/scf or greater if the flare is steam-assisted or air-assisted; or 200 Btu/scf or greater if the flare is non-assisted.	Minn. R. 7007.0800, subp. 2
The flare shall be operated at all times when emissions may be vented to it.	Minn. R. 7007.0800, subp. 2
The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.	Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-31

01/16/07

Facility Name: AI-Corn Clean Fuel

Permit Number: 03900028 - 010

Subject Item: CE 009 Fabric Filter - Low Temperature, i.e., T<180 Degrees F**Associated Items:** EU 001 Corn Dump Pit #1

EU 002 Elevator

GP 001 Baghouse Monitoring and Maintenance

What to do	Why to do it
Pressure Drop: greater than or equal to 1 inches of water column and less than or equal to 6 inches of water column for CE 001. See GP 001 for additional CE 001 requirements.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 14

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: AI-Corn Clean Fuel

Permit Number: 03900028 - 010

Subject Item: CE 010 Packed-Gas Adsorption Column

Associated Items: EU 038 Fermenter

EU 039 Fermenter

EU 045 Fermenter

EU 052 Beerwell

EU 057 Fermentor #8

EU 058 Fermenter #9

GP 002 Scrubber Monitoring and Maintenance

What to do	Why to do it
Volatile Organic Compounds: greater than or equal to 95.0 percent control efficiency or less than or equal to 20 parts per million if the inlet concentration is less than 200 parts per million. (See GP 002 for CE 003 monitoring and maintenance requirements).	Title I Condition: BACT - equivalent emission limit pursuant to consent decree entered into under 40 CFR Sec. 52.21 and Minn. R. 7007.3000; Consent Decree 15(b)
Pressure Drop: greater than or equal to 2 inches of water column and less than or equal to 10 inches of water column for CE 003, unless a new range is required to be set pursuant to Minn. R. 7017.2025, subp. 3. If a new range is required to be set, it will be based on the values recorded during the most recent MPCA approved performance test where compliance was demonstrated.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 14
Water flow rate: greater than or equal to 20.0 gallons/minute (CE 010 inlet water flow rate) , unless a new minimum is required to be set pursuant to Minn. R. 7017.2025, subp. 3. If a new minimum is required to be set, it will be based on the values recorded during the most recent MPCA approved performance test where compliance was demonstrated.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 14

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-33

01/16/07

Facility Name: Al-Corn Clean Fuel

Permit Number: 03900028 - 010

Subject Item: FS 001 Ethanol Loadout

What to do	Why to do it
All loadout emissions from all vehicles loaded at the Ethanol Loadout area will be collected and routed to the Ethanol Loading Rack Flare (CE008). All railcars shall be designated as ethanol only.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 14

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-34

01/16/07

Facility Name: Al-Corn Clean Fuel

Permit Number: 03900028 - 010

Subject Item: FS 002 Truck Traffic on Paved Roads

What to do	Why to do it
Follow the Fugitive Dust Emission Control Program in the Control Technology Plan. Keep a copy of the Plan onsite for use by facility staff and review by MPCA staff.	Minn. R. 7011.0150
Fugitive emissions: Do not cause or permit the transporting of any material in a manner which may allow avoidable amounts of particulate matter to be come airborne. Do not cause or permit a road or a driveway to be constructed, used, repaired, or demolished without applying all such reasonable measures as may be required to prevent particulate matter from becoming airborne.	Minn. R. 7011.0150

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-35

01/16/07

Facility Name: AI-Corn Clean Fuel

Permit Number: 03900028 - 010

Subject Item: FS 003 Uncaptured Grain and DDGS

What to do	Why to do it
Clean up commodities (corn and/or DDGS) spilled on the driveway and other facility property as required to minimize fugitive emissions to a level consistent with RACT (Reasonably Available Control Technology).	Minn. R. 7011.1005, subp. 1(A)
Opacity: less than or equal to 5 percent opacity for fugitive emissions from truck unloading of grain, or grain and DDGS handling and rail loading activities.	Minn. R. 7011.1005, subp. 3(A)
Opacity: less than or equal to 10 percent opacity for fugitive emissions from DDGS truck loading.	Minn. R. 7011.1005, subp. 3(B)

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: AI-Corn Clean Fuel

Permit Number: 03900028 - 010

Subject Item: FS 004 Valves, Flanges, and Seals (tank leaks)

What to do	Why to do it
A. STANDARDS: PUMPS	hdr
<p>Pumps in light liquid service:</p> <p>(a)(1) Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in 40 CFR 60.485(b), except as provide in 40 CFR 60.482-1(c) and paragraphs (d), (e), and (f).</p> <p>(2) Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal</p>	40 CFR 60.482-2 Minn. R. 7011.2900
<p>(b)(1) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.</p> <p>(2) If there are indications of liquids dripping from the pump seal, a leak is detected.</p> <p>(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 40 CFR 60.482-9.</p> <p>(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.</p>	40 CFR 60.482-2(b) and (c) Minn. R. 7011.2900
B. STANDARDS: COMPRESSORS	hdr
<p>(a) Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of VOC to the atmosphere, except as provided in 40 CFR 60.482-1(c) and 40 CFR 60.482-3(h) and (i).</p>	40 CFR 60.482-3(a) Minn. R. 7011.2900
<p>(b) Each compressor seal system shall be:</p> <p>(1) operated with the barrier fluid at a pressure that is greater than the compressor stuffing box pressure; or</p> <p>(2) Equipped with a barrier fluid system that is connected by a closed vent system to a control device that complies with the requirements of 40 CFR 60.482-10; or</p> <p>(3) Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere.</p>	40 CFR 60.482-3(b) Minn. R. 7011.2900
<p>(c) The barrier fluid system shall be in heavy liquid service or shall not be in VOC service.</p> <p>(d) Each barrier fluid system shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.</p>	40 CFR 60.482-3(c) and (d) Minn. R. 7011.2900
<p>(e) (1) Each sensor shall be checked daily or shall be equipped with an audible alarm.</p> <p>(2) The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.</p>	40 CFR 60.482-3(e) Minn. R. 7011.2900
<p>(f) If the sensor indicates failure of the seal system, the barrier system, or both based on the criterion determined under paragraph (e)(2), a leak is detected.</p>	40 CFR 60.482-3(f) Minn. R. 7011.2900
<p>(g) (1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected except as proved in 40 CFR 60.482-9 (delay of repair)</p> <p>(2) A first attempt at repair shall be made no later than 15 calendar days after it is detected, except as provided in 40 CFR 60.482-9.</p>	40 CFR 60.482-3(g) Minn. R. 7011.2900
C. STANDARDS: PRESSURE RELIEF DEVICES IN GAS/VAPOR SERVICE	hdr
<p>(a) Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background as determined by the methods specified in 40 CFR 60.485(c).</p>	40 CFR 60.482-4(a) Minn. R. 7011.2900

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: AI-Corn Clean Fuel

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<p>(b)(1) After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after the pressure release, except as provided in 40 CFR 60.482-9.</p> <p>(2) No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the conditions of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, by the methods specified in 40 CFR 60.485(c).</p>	<p>40 CFR 60.482-4(b) Minn. R. 7011.2900</p>
<p>D. STANDARDS: SAMPLING CONNECTION SYSTEMS</p>	<p>hdr</p>
<p>(a) Each sampling connection system shall be equipped with a closed-purged, closed-loop, or closed-vent system, except as provided in 40 CFR 60.482-1(c).</p>	<p>40 CFR 60.482-5(a) Minn. R. 7011.2900</p>
<p>(b) Each closed-purge, closed-loop, or closed-vent system shall:</p> <p>(1) Return the purged process fluid directly to the process line; or</p> <p>(2) Collect and recycle the purged process fluid to a process; or</p> <p>(3) Be desinged and operated to capture and transport all the purged process fluid to a control device that complies with the requirements of 40 CFR 60.482-10.</p> <p>(c) In situ sampling systems are exempt from these requirements.</p>	<p>40 CFR 60.482-5(b) and (c) Minn. R. 7011.2900</p>
<p>E. STANDARDS: OPEN ENDED VALVES OR LINES</p>	<p>hdr</p>
<p>(a)(1) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in 40 CFR 60.482-1(c).</p> <p>(2) The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line.</p>	<p>40 CFR 60.482-6(a) Minn. R. 7011.2900</p>
<p>(b) Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.</p> <p>(c) When a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with paragraph (a) at all other times.</p>	<p>40 CFR 60.482-6(b) and (c) Minn. R. 7011.2900</p>
<p>F. STANDARDS: VALVES</p>	<p>hdr</p>
<p>(a) Each valve shall be monitored monthly to detect leaks by the methods specified in 40 CFR 60.485(b).</p>	<p>40 CFR 60.482-7(a) Minn. R. 7011.2900</p>
<p>(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.</p> <p>(c)(1) Any valve for which a leak is not detected for 2 successive months may be monitored the first month of every quarter, beginning with the next quarter, until a leak is detected.</p> <p>(2) If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months.</p>	<p>40 CFR 60.482-7(b) and (c) Minn. R. 7011.2900</p>
<p>(d)(1) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provide in 40 CFR 60.482-9.</p> <p>(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.</p>	<p>40 CFR 60.482-7(d) Minn. R. 7011.2900</p>
<p>(e) First attempts at repair include, but are not limited to, the following best practices where practicable:</p> <p>(1) Tightening of bonnet bolts;</p> <p>(2) Replacement of bonnet bolts;</p> <p>(3) Tightening of packing gland nuts;</p> <p>(4) Injection of lubricant into lubricated packing</p>	<p>40 CFR 60.482-7(e) Minn. R. 7011.2900</p>
<p>G. STANDARDS: PUMPS AND VALVES IN HEAVY LIQUID SERVICE, PRESSURE RELIEF DEVICES IN LIGHT LIQUID OR HEAVY LIQUID SERVICE, AND FLANGES AND OTHER CONNECTORS.</p>	<p>hdr</p>
<p>(a) Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service and flanges and other connectors shall be monitored within 5 days by the method specified in 40 CFR 60.485(b) if evidence of a potential leak is found by visual, audible, olfactory, or any other detection method.</p>	<p>40 CFR 60.482-8(a) Minn. R. 7011.2900</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

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<p>(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.</p> <p>(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 40 CFR 60.482-9 (delay of repair).</p> <p>(2) The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.</p>	<p>40 CFR 60.482-8(b) and (c) Minn. R. 7011.2900</p>
<p>(d) First attempts at repair include, but are not limited to, the best practices described under 40 CFR 60.482-7(e).</p>	<p>40 CFR 60.482-8(d) Minn. R. 7011.2900</p>
<p>H. DELAY OF REPAIR</p>	<p>hdr</p>
<p>(a) Delay of repair of equipment for which leaks have been detected will be allowed if the repair is technically infeasible without a process unit shutdown. Repair of this equipment shall occur before the end of the next process unit shutdown.</p> <p>(b) Delay of repair of equipment will be allowed for equipment which is isolated from the process and which does not remain in VOC service.</p>	<p>40 CFR 60.482-9(a) and (b) Minn. R. 7011.2900</p>
<p>(c) Delay of repair for valves will be allowed if:</p> <p>(1) The owner or operator demonstrates that emissions of purged material resulting from the immediate repair are greater than the fugitive emissions likely to result from delay of repair, and</p> <p>(2) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with 40 CFR 60.482-10</p>	<p>40 CFR 60.482-9(c) Minn. R. 7011.2900</p>
<p>(d) Delay of repair for pumps will be allowed if:</p> <p>(1) Repair required the use of a dual mechanical seal system that includes a barrier fluid system, and</p> <p>(2) Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.</p>	<p>40 CFR 60.482-9(d) Minn. R. 7011.2900</p>
<p>(e) Delay of repair beyond a process unit shutdown will be allowed for a valve, if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next process unit shutdown will not be allowed unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.</p>	<p>40 CFR 60.482-9(e) Minn. R. 7011.2900</p>
<p>I. TESTING PROCEDURES</p>	<p>hdr</p>
<p>Compliance shall be determined by the methods specified in 40 CFR 60.485.</p>	<p>40 CFR 60.485 Minn. R. 7011.2900</p>
<p>J. RECORDKEEPING</p>	<p>hdr</p>
<p>(b) When each leak is detected, the following requirements apply:</p> <p>(1) A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment.</p> <p>(2) The identification on a valve may be removed after it has been monitored for 2 successive months as specified in 40 CFR 60.482-7(c) and no leak has been detected during those 2 months.</p> <p>(3) The identification on equipment except on a valve, may be removed after it has been repaired.</p>	<p>40 CFR 60.486(b) Minn. R. 7011.2900</p>
<p>(c) When each leak is detected the following information shall be recorded in a log and shall be kept for 2 years in a readily accessible location:</p> <p>(1) The instrument and operator identification numbers and the equipment identification number.</p> <p>(2) The date the leak was detected and the dates of each attempt to repair the leak.</p> <p>(3) Repair methods applied in each attempt to repair the leak.</p> <p>(4) Above 10,000 is the maximum instrument reading measured by the methods specified in 40 CFR 60.485(a) after each repair attempt is equal to or greater than 10,000 ppm.</p>	<p>40 CFR 60.486(c)(1) - (4) Minn. R. 7011.2900</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: AI-Corn Clean Fuel

Permit Number: 03900028 - 010

<p>(5) Repair delayed and the reason for the delay if a leak is not repaired within 15 calendar days after discover of the leak. (6) The signature of the owner or operator whose decision it was that the repair could not be effected without a process shutdown. (7) The expected date of successful repair of the leak if a leak is not repaired within 15 days. (8) Dates of process unit shutdown that occur while the equipment is unrepaired. (9) The date of successful repair of the leak.</p>	<p>40 CFR 60.486(c)(5) - (9) Minn. R. 7011.2900</p>
<p>K. REPORTING REQUIREMENTS</p>	<p>hdr</p>
<p>(a) Each owner or operator subject to the provisions of this subpart shall submit semiannual reports to the Administrator beginning six months after the initial startup date.</p>	<p>40 CFR 60.487(a) Minn. R. 7011.2900</p>
<p>(b) The initial semiannual report to the Administrator shall include the following information: (1) Process unit identification, (2) Number of valves subject to the requirements of 40 CFR 60.482-7, (3) Number of pumps subject to the requirements of 40 CFR 60.482-2, (4) Number of compressors subject to the requirements of 40 CFR 60.482-3</p>	<p>40 CFR 60.487(b) Minn. R. 7011.2900</p>
<p>(c) All semiannual reports to the Administrator shall include the following information, summarized from the information in 40 CFR 60.486; (1) Process unit identification. (2) For each month during the semiannual reporting period, (i) Number of valves for which leaks were detected as described in 40 CFR 60.482(7)(b) or 40 CFR 60.483-2 (ii) Number of valves for which leaks were not repaired as required in 40 CFR 60.482-7(d)(1), (iii) Number of pumps for which leaks were detected as described in 40 CFR 60.482-2(b) and (d)(6)(i), (iv) Number of pumps for which leaks were not repaired as required in 40 CFR 60.482-2(c)(1) and (d)(6)(ii),</p>	<p>40 CFR 60.487(c)(1) and (2)(i) - (2)(iv) Minn. R. 7011.2900</p>
<p> (v) Number of compressors for which leaks were detected as described in 40 CFR 60.482-3(f), (vi) Number of compressors for which leaks were not repaired as required in 40 CFR 60.482-3(g)(1) (vii) The facts that explain each delay of repair and, where appropriate, why a process unit shutdown was technically infeasible.</p>	<p>40 CFR 60.487(c)(2)(v) - (vii) Minn. R. 7011.2900</p>
<p>(3) Dates of process unit shutdowns which occurred within the semiannual reporting period. (4) Revisions to items reported according to paragraph (b) if changes have occurred since the initial report or subsequent revisions to the initial report.</p>	<p>40 CFR 60.487(c)(3) and (4) Minn. R. 7011.2900</p>
<p>(e) Report the results of all performance tests in accordance with 40 CFR 60.8. The provisions of 40 CFR 60.8(d) do not apply to affected facilities subject to the provisions of this subpart except than an owner or operator must notify the Administrator of the schedule for the initial performance tests at least 30 days before the initial performance tests.</p>	<p>40 CFR 60.487(e) Minn. R. 7011.2900</p>

TABLE B: SUBMITTALS

B-1 01/16/07

Facility Name: AI-Corn Clean Fuel
Permit Number: 03900028 - 010

Table B lists most of the submittals required by this permit. Please note that some submittal requirements may appear in Table A or, if applicable, within a compliance schedule located in Table C. Table B is divided into two sections in order to separately list one-time only and recurrent submittal requirements.

Each submittal must be postmarked or received by the date specified in the applicable Table. Those submittals required by parts 7007.0100 to 7007.1850 must be certified by a responsible official, defined in Minn. R. 7007.0100, subp. 21. Other submittals shall be certified as appropriate if certification is required by an applicable rule or permit condition.

Send any application for a permit or permit amendment to:

AQ Permit Technical Advisor
Industrial Division
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

Also, where required by an applicable rule or permit condition, send to the Permit Technical Advisor notices of:

- accumulated insignificant activities,
- installation of control equipment,
- replacement of an emissions unit, and
- changes that contravene a permit term.

Unless another person is identified in the applicable Table, send all other submittals to:

AQ Compliance Tracking Coordinator
Industrial Division
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

Send submittals that are required to be submitted to the U.S. EPA regional office to:

Mr. George Czerniak
Air and Radiation Branch
EPA Region V
77 West Jackson Boulevard
Chicago, Illinois 60604

Send submittals that are required by the Acid Rain Program to:

U.S. Environmental Protection Agency
Clean Air Markets Division
1200 Pennsylvania Avenue NW (6204N)
Washington, D.C. 20460

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS

Facility Name: AI-Corn Clean Fuel

Permit Number: 03900028 - 010

What to send	When to send	Portion of Facility Affected
Notification of the Actual Date of Initial Startup	due 15 days after Initial Startup	EU054, EU055, EU057, EU058, EU059, EU060, EU061, EU062, EU063, EU064, EU065, EU066
Notification of the date of Equipment Removal/Dismantlement	due 15 days after Equipment Removal and/or Dismantlement from service as fermenters (converted to water storage)	EU009, EU010
Notification of the date of Equipment Removal/Dismantlement	due 15 days after Equipment Removal and/or Dismantlement from service as fermenters (converted to water storage)	EU011
Notification of the date of Equipment Removal/Dismantlement	due 15 days after Equipment Removal and/or Dismantlement from service as fermenters (converted to water storage)	EU012
Testing Frequency Plan	due 60 days after Performance Test for SV 003 VOC emissions. The plan shall specify a testing frequency using the test data and MPCA guidance. Future performance tests based on year (12-month), 36-month, and 60-month intervals, or as applicable, shall be required on written approval of MPCA per Minn. R. 7017.2020, subp. 1.	SV003
Testing Frequency Plan	due 60 days after Performance Test for SV 008 PM and PM10 emissions. The plan shall specify a testing frequency using the test data and MPCA guidance. Future performance tests based on year (12-month), 36-month, and 60-month intervals, or as applicable, shall be required on written approval of MPCA per Minn. R. 7017.2020, subp. 1.	SV008

TABLE B: RECURRENT SUBMITTALS

B-3 01/16/07

Facility Name: Al-Corn Clean Fuel

Permit Number: 03900028 - 010

What to send	When to send	Portion of Facility Affected
Semiannual Deviations Report	due 30 days after end of each calendar half-year following Initial Startup of the facility. The first report covers January 1st through June 30th. The second report covers July 1st through December 31st.	Total Facility
Compliance Certification	due 30 days after end of each calendar year following Initial Startup of the facility. The report covers all deviations experienced during the calendar year.	Total Facility

APPENDIX MATERIAL

Facility Name: Al-Corn Clean Fuel

Permit Number: 03900028-010

APPENDIX 1

PM10 MODEL INPUT DATA



Microsoft Excel
Worksheet

TECHNICAL SUPPORT DOCUMENT
For
AIR EMISSION PERMIT NO. 03900028-010
(Major Amendment)

This Technical Support Document (TSD) is intended for all parties interested in the permit and to meet the requirements that have been set forth by the federal and state regulations (40 CFR § 70.7(a)(5) and Minn. R. 7007.0850, subp. 1). The purpose of this document is to provide the legal and factual justification for each applicable requirement or policy decision considered in the preliminary determination to issue the permit.

1. General Information

1.1. Applicant and Stationary Source Location:

Applicant/Address	Stationary Source/Address (SIC Code: 2869)
Al-Corn Clean Fuels 797 5 th Street Claremont, MN 55924	797 5th Street Claremont Dodge County
Contact: Randall J. Doyle Phone: (507) 528-2494	Rochester Office

1.2. Description of the Facility

This facility produces fuel grade ethanol and Distillers Dried Grains with Solubles (DDGS). Emission sources include corn receiving, storing, handling, and cleaning; steam production; drying, storage, handling, and shipping of DDGS; fermentation and distillation; storage of ethanol of varying purities at various points in the process; storage of gasoline (denaturant); and shipping of denatured ethanol. Primary pollutants include particulate matter, particulate matter smaller than 10 microns, volatile organic compounds, and nitrogen oxides. The existing facility is synthetic minor under the PSD and part 70 permitting programs.

1.3 Description of the Activities Allowed by this Permit Action

This permit action authorizes an increase in production from 34.9 million gallons per year to 50 million gallons per year. Physical changes associated with this production increase include an additional corn storage bin (EU054), one new hammermill (EU055), two new fermenters (EU057 and EU058; four existing fermenters will be retired, EU009, EU010, EU011, and EU012), the option to restart an existing distillation system if needed (EU059, EU060, EU061, EU062, and EU066), an additional cooling tower cell, a second ethanol truck loadout (EU065), and the option to install new backup electrical generating capacity if needed (EU063 and EU064). The new generators will be used only for emergency service, not as utility peaking units. Additional air pollution control equipment to be installed includes a new fermentation scrubber (CE010).

1.4. Facility Emissions:

Table 1. Total Facility Potential to Emit Summary

	PM tpy	PM ₁₀ tpy	SO ₂ tpy	NO _x tpy	CO tpy	VOC tpy	Single HAP tpy	All HAPs tpy
Total Facility Limited Potential Emissions	81.8	72.1	42.9	60.4	95.0	93.6	9.0	24.0
Total Facility Actual Emissions (2004/2005)	30.0	20.5	30.0	22.0	62.6	45.7	HAPs not reported in emission inventory	

PM = Particulate Matter

SO₂ = Sulfur Dioxide

VOCs = Volatile Organic Compounds

HAP = Hazardous Air Pollutant

PM₁₀ = PM smaller than 10 microns

NO_x = Nitrogen Oxides

CO = Carbon Monoxide

Table 2. Facility Classification

Classification	Major/Affected Source	Synthetic Minor	Minor
PSD		X	
Part 70 Permit Program		X	
Part 63 NESHAP		X	

2. Regulatory and/or Statutory Basis

New Source Review

This facility is not a major source under the federal New Source Review regulations and remains nonmajor after the modifications authorized by this permit action. Permit conditions related to this are identified in the permit and Table 3 following as "Title I Conditions."

Part 70 Permit Program

This facility is not a major source under the federal Part 70 operating permit regulation and remains nonmajor after the modifications authorized by this permit action.

New Source Performance Standards (NSPS)

Portions of the facility are subject to 40 CFR pt. 60, subp. Kb (Standards Of Performance For Volatile Organic Liquid Storage Vessels For Which Construction, Reconstruction, Or Modification Commenced After July 23, 1984) and VV (Standards Of Performance For Equipment Leaks Of Voc In The Synthetic Organic Chemicals Manufacturing Industry). New liquid piping installed under this amendment may be subject to VV.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

The stationary source is not a major source of HAP and there are no NESHAPs that apply.

Environmental Review: An Environmental Assessment Worksheet (EAW) is mandatory if any plant expansion that increases production more than five million gallons per year. That EAW has been prepared and publicly noticed concurrently with this document.

Minnesota State Rules

Portions of the facility are subject to the following Minnesota Standards of Performance:

- Minn. R. 7011.0715 Standards of Performance for Post-1969 Industrial Process Equipment
- Minn. R. 7011.1005 Standards of Performance for Bulk Agricultural Commodities
- Minn. R. 7011.2300 Standards of Performance for Stationary Internal Combustion Engines

Minnesota and National Ambient Air Standards

Al-Corn had previously been identified as needing to examine its ambient air impact with respect to PM10. Al-Corn submitted modeling with this application demonstrating that the ambient air standard for PM10 is protected.

Table 3. Regulatory Overview of Units Affected by the Modification/Permit Amendment

EU = emission unit; GP = Group; SV = stack or vent

EU, GP, or SV	Applicable Regulations	Comments:
GP 001	40 CFR § 52.21 and Minn. R. 7007.0800, subp. 14	Standard baghouse monitoring and maintenance requirements; Title I Conditions where required; added CE007 and 009 and updated requirements
GP002	40 CFR § 52.21 and Minn. R. 7007.0800, subp. 14	Standard wet scrubber monitoring and maintenance requirements; Title I Conditions where required; added CE010
GP006	Title I Condition: 40 CFR § 52.21	NOx limit to avoid classification as a major source under PSD; Consent Decree requirement
GP007	Minn. R. 7011.2300 40 CFR § 52.21	Standard of Performance for Internal Combustion engines Fuel usage limit for synthetic minor status; added EU063 and 064
SV001	Minn. R. 7011.1005 40 CFR § 52.21	Bulk agricultural commodity rule PM and PM10 limits to avoid classification as a major source; added EU054, new corn bin
SV002	Minn. R. 7011.1005 40 CFR § 52.21	Bulk agricultural commodity rule PM and PM10 limits to avoid classification as a major source; added EU055, new hammermill
SV003	Title I Condition: 40 CFR § 52.21	VOC BACT-equivalent limit to avoid classification as a major source; added EU057 and 058, new fermenters

SV007	Title I Condition: 40 CFR § 52.21	VOC limit to avoid classification as a major source Note: emissions from this stack will be routed through SV012 as part of the construction under permit action 010
SV012	Minn. R. 7011.0610 40 CFR § 52.21	Direct heating equipment rule PM, PM10 and VOC BACT-equivalent limits to avoid classification as a major source; changed limits as proposed in application

3. Technical Information

3.1 Calculations of Potential to Emit

New corn bin and hammermill

The new corn bin and hammermill are each vented through a fabric filter baghouse. A dust loading of 0.005 gr/dscf is assumed based on the manufacturer's guarantee and operation is assumed 8760 hours/year.

New fermenters

All fermenters, both existing and new, will be vented through a new wet scrubber. The proposed emission limit is based on controlled emissions test data scaled up to the new production rate. The proposed limit is also consistent with estimates of uncontrolled emissions and a 95 percent collection efficiency required by the federal Consent Decree. Operation is assumed to be 8760 hours/year.

Cooling Tower

Cooling tower drift loss is assumed to be 0.005 percent of circulating flow with a solids content of 1,275 ppm.

Ethanol truck loadout

AP-42 Section 5.2 is used to estimate uncontrolled emissions from truck loading. For VOC, 95 percent destruction by the flare is assumed, together with the limit on denatured ethanol production of 52.5 million gallons per year. For combustion-generated pollutants, manufacturer-supplied emission factors are used.

3.2 Periodic Monitoring

In accordance with the Clean Air Act, it is the responsibility of the owner or operator of a facility to have sufficient knowledge of the facility to certify that the facility is in compliance with all applicable requirements.

In evaluating the monitoring included in the permit, the MPCA considers the following:

- The likelihood of violating the applicable requirements;
- Whether add-on controls are necessary to meet the emission limits;
- The variability of emissions over time;

- The type of monitoring, process, maintenance, or control equipment data already available for the emission unit;
- The technical and economic feasibility of possible periodic monitoring methods; and
- The kind of monitoring found on similar units elsewhere.

Table 4 summarizes the periodic monitoring requirements for those emission units for which the monitoring required by the applicable requirement is nonexistent or inadequate.

Table 4. Periodic Monitoring

Emission Unit or Group	Requirement (basis)	Additional Monitoring	Discussion
GP 001	NA	None	Standard monitoring and O and M requirements for fabric filters which serve as periodic monitoring for other items listed below
GP002	NA	None	Standard monitoring and O and M requirements for scrubbers which serve as periodic monitoring for other items listed below
GP006	NO _x ≤ 0.04 lb/MMBtu for nat. gas NO _x ≤ 0.08 lb/MMBtu for propane Limits to avoid 40 CFR 52.21	None	Performance tests have verified that these limits are met under worst-case operating conditions
GP007	Opacity ≤ 20 % SO ₂ ≤ 0.5 lb/million Btu Minn. R. 7011.2300 Fuel use ≤ 83,715 gallons/yr Limit to avoid 40 CFR 52.21	Opacity: none SO ₂ : fuel supplier certification Fuel use: records of fuel used or hours of operation	IC engines using either diesel fuel oil or natural gas are not expected to exceed the opacity standard
SV001	PM ≤ 0.005 gr/dscf Limit to avoid 40 CFR 52.21 Opacity ≤ 10 % Minn. R.	Monitoring requirements are those required for baghouses described under GP001	Control by a baghouse insures compliance with the limits.

Emission Unit or Group	Requirement (basis)	Additional Monitoring	Discussion
	7011.1005		
SV002	$PM \leq 0.005$ gr/dscf Limit to avoid 40 CFR 52.21 $Opacity \leq 10$ % Minn. R. 7011.1005	Monitoring requirements are those required for baghouses described under GP001	Control by a baghouse insures compliance with the limits.
SV003	$VOC \leq 9.6$ lb/hr Limit to avoid 40 CFR 52.21 $Opacity \leq 20$ % Minn. R. 7011.0715	Monitoring requirements are those required for scrubbers described under GP002 and CE003	Control by a scrubber insures compliance with the limits.
SV007	$VOC \leq 0.3$ lb/hr Limit to avoid 40 CFR 52.21 $Opacity \leq 20$ % Minn. R. 7011.0715	Monitoring requirements are those required for scrubbers described under GP002 and CE005	Control by a scrubber insures compliance with the limits.
SV012	$PM \leq 7.0$ lb/hr Limit to avoid 40 CFR 52.21 $PM \leq 0.3$ gr/dscf Minn. R. 7011.0610 $PM_{10} \leq 7.0$ lb/hr Limit to avoid 40 CFR 52.21 $VOC \leq 2.5$ lb/hr Limit to avoid	Monitoring requirements are described under EU042 and include continuous temperature readout and records, daily verification that the temperature recorder is operating, and inspection and maintenance	Control by a thermal oxidizer assures compliance with the limits

Emission Unit or Group	Requirement (basis)	Additional Monitoring	Discussion
	40 CFR 52.21 $SO_2 \leq 9.13$ lb/hr Limit to avoid 40 CFR 52.21 $CO \leq 19.5$ lb/hr Limit to avoid 40 CFR 52.21 $Opacity \leq 10$ % Minn. R. 7011.0610		

3.3 Insignificant Activities

A permitted facility may have emission units which are classified as insignificant activities.

The permit is required to include periodic monitoring for all emissions units, including insignificant activities, per EPA guidance. The insignificant activities at this Facility are only subject to general applicable requirements. Using the criteria outlined earlier in this TSD, the following table documents the justification why no additional periodic monitoring is necessary for the following listed insignificant activities.

Table 5. Insignificant Activities

Insignificant Activity	General Applicable Emission limit	Discussion
Fuel use: space heaters fueled by, kerosene, natural gas, or propane	$PM \leq 0.6$ or 0.4 lb/MMBtu, depending on year constructed $Opacity \leq 20\%$ with exceptions (Minn. R. 7011.0510/515)	For this unit, based on the fuels used and EPA published emissions factors, it is highly unlikely that it could violate the applicable requirement. In addition, these types of units are typically operated and vented inside a building, so testing for PM or opacity is not feasible.
Fuel burning equipment with a capacity less than 500,000 Btu/hour, etc.	$PM \leq 0.6$ or 0.4, depending on year constructed $Opacity \leq 20\%$ with exceptions	For these units, based on the fuels used and EPA published emissions factors, it is highly unlikely that they could violate the applicable requirements.

Insignificant Activity	General Applicable Emission limit	Discussion
	(Minn. R. 7011.0510/515)	
Emissions from a laboratory, as defined in Minn. R. 7007.1300, subp. 3(G)	PM, variable depending on airflow Opacity ≤ 20% (Minn. R. 7011.0710/715)	These are very small, intermittent, bench-top operations that typically do not even have any emissions. It is highly unlikely that they could violate the applicable requirement.
Equipment used for hydraulic or hydrostatic testing	PM, variable depending on airflow Opacity ≤ 20% (Minn. R. 7011.0710/715)	While no known emissions estimation method exists for these units, based on general knowledge of how they operate, it is highly unlikely that they could generate particulate matter. In addition, these units would be operated and vented directly into a building, so testing is not feasible.
Brazing, soldering or welding equipment	PM, variable depending on airflow Opacity ≤ 20% (Minn. R. 7011.0710/715)	For these units, based on EPA published emissions factors, it is highly unlikely that they could violate the applicable requirement. In addition, these units are typically operated and vented inside a building, so testing for PM or opacity is not feasible.
Blueprint copiers and photographic processes	Opacity ≤ 20% (Minn. R. 7011.0105 or 7011.0110))	While no known emissions estimation method exists for these units, based on general knowledge of how they operate, it is highly unlikely that they could generate visible emissions. In addition, these units would be operated and vented directly into an office area, so monitoring or testing is not feasible.
Cleaning operations: alkaline/phosphate cleaners and associated burners	PM, variable depending on airflow Opacity ≤ 20% (Minn. R. 7011.0610+ Minn. R. 7011.0710/715)	For these units, there are some factors available for the burners, but very little information regarding the cleaning operation itself. However, based on general knowledge of how they operate, it is highly unlikely that they could violate the applicable requirement or that testing would be feasible.
Individual units with actual emissions less than 2000 lb/year of certain pollutants	PM, variable depending on airflow Opacity ≤ 20% (with exceptions) (Minn. R. 7011.0715 and Minn. R. 7011.610)	Examples are natural gas combustion units and emergency generators. For the natural gas units and generator, based on the fuels used and EPA published emissions factors, it is highly unlikely that they could violate the applicable requirement. Frequently, units with low emissions are operated and vented inside a

Insignificant Activity	General Applicable Emission limit	Discussion
	or $SO_2 \leq 0.5 \text{ lb/MMBtu}$ Opacity $\leq 20\%$ (Minn. R. 7011.2300)	building, so testing for PM or opacity is not feasible.
Infrequent use of spray paint equipment for routine housekeeping or plant upkeep activities not associated with primary production processes at the stationary source	PM, variable depending on airflow or process weight rate Opacity $\leq 20\%$ (Minn. R. 7011.0715)	While spray equipment will have the potential to emit particulate matter, these particular activities are those not associated with production, so they would be infrequent and usually occur outdoors. Testing or monitoring is not feasible.
Equipment venting PM/PM ₁₀ inside a building, provided that emissions from the equipment are: a). filtered through an air cleaning system; and b). vented inside of the building 100% of the time	PM, variable depending on airflow Opacity $\leq 20\%$ (Minn. R. 7011.0715)	For these units, it is highly unlikely that they could violate the applicable requirement. In addition, these units are vented inside a building, so testing for PM or opacity is not feasible.

3.4 Permit Organization

In general, the permit meets the MPCA Guidance for ordering and grouping of requirements.

3.5 Comments Received

Public Notice Period: November 11, 2006 - December 11, 2006

No comments were received during the public notice period.

4. Conclusion

Based on the information provided by Al-Corn, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 03900028-010, and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team: David L. Beil, P.E. (permit writer/engineer)
 Greg Berger (enforcement)
 Curt Stock (stack testing)
 Marshall Cole (peer reviewer)

Attachments: 1. PTE Summary