

**AIR EMISSION PERMIT NO. 12900036- 006
IS ISSUED TO**

Minnesota Energy
777 W Borden Ave
Buffalo Lake, Renville County, MN 55314

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	Application Date
Total Facility Operating Permit	January 21, 1998
Major Amendment	September 28, 1998
Moderate Amendment	July 26, 1999
Major Amendment	NA – MPCA –initiated correction to permit
Major Amendment	January 2, 2001

This permit authorizes the permittee to operate and construct 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 as defined in the state air pollution control rules unless the term is explicitly defined in the permit.

Permit Type: State; Synthetic Minor Part 70; Limits to avoid NSR

Issue Date: April 30, 2001

Expiration: Permit does not expire
All Title I Conditions do not expire.

Ann M. Foss
Manager
North/South Major Facilities

for Karen A. Studders
Commissioner
Minnesota Pollution Control Agency

TABLE OF CONTENTS

Notice to the Permittee

Permit Shield

Facility Description

Table A: Limits and Other Requirements

Table B: Submittals

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:

The Permittee operates a 14,500,000 gallon per year fuel ethanol production plant in Buffalo Lake, Renville County, Minnesota. Emissions from this facility include particulate matter from the handling of corn and handling and drying of DDGS (distillers' dried grains with solubles, a by-product consisting of solid matter from spent corn); volatile organic compounds from fermentation, distillation, storage, and loadout of ethanol; and combustion products (primarily nitrogen oxides) from combustion of natural gas and propane in the dryer and boilers. The permit contains conditions limiting the air emissions to less than 100 tons per year for each criteria pollutant, so that the facility is considered a non-major source under 40 CFR § 52.21, 40 CFR § 70.2, and Minn. R. 7007.0200.

This major amendment allows for the installation of a new 60.68 million Btu/hr boiler at the facility. The boiler will be fired on natural gas and propane. The opacity limit for the DDGS dryer is also being increased from 10% opacity to 20% opacity, except for one six-minute period per hour not to exceed 60% opacity. This change is in response to an MPCA determination that the more stringent opacity limit is not applicable to emissions from the DDGS dryer.

TABLE A: LIMITS AND OTHER REQUIREMENTS

04/30/01

Facility Name: Minnesota Energy

Permit Number: 12900036 - 006

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
Production: less than or equal to 14500000 gallons/year using 12-month Rolling Sum of fuel ethanol (pure ethanol that has not been denatured).	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Recordkeeping: by the 15th day of each month, calculate and record the fuel ethanol production for the previous month.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Recordkeeping: by the 15th day of each month, calculate and record the total fuel ethanol production for the previous 12-month period (12-month rolling sum).	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
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.	Minn. R. 7007.0800, subp. 2; Minn. R. 7007.0800, subp. 16(J)
Operation and Maintenance Plan: Retain at the stationary source an operation and maintenance plan for all air pollution control equipment.	Minn. R. 7007.0800, subp. 14 and Minn. R. 7007.0800, subp. 16(J)
Notification of Deviations Endangering Human Health or the Environment: Immediately after discovery, notify orally or by facsimile the Commissioner or State Duty Officer of any deviation from permit conditions which could endanger human health or the environment.	Minn. R. 7019.1000, subp. 1
Notification of Deviations Endangering Human Health or the Environment Report: Within 2 working days of 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: 1. the cause of the deviation; 2. the exact dates of the period of the deviation, if the deviation has been corrected; 3. whether or not the deviation has been corrected; 4. the anticipated time by which the deviation is expected to be corrected, if not yet corrected; and 5. steps taken or planned to reduce, eliminate, and prevent reoccurrence of the deviation.	Minn. R. 7019.1000, subp. 1
Breakdown Notifications: Notify the Commissioner within 24 hours of a breakdown of more than one hour duration of any control equipment or process equipment if the breakdown causes any increase in the emissions of any regulated air pollutant. The 24-hour time period starts when the breakdown was discovered or reasonably should have been discovered by the owner or operator. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 2. At the time of notification or as soon as possible thereafter, the owner or operator shall inform the Commissioner of the cause of the breakdown and the estimated duration. The owner or operator shall notify the Commissioner when the breakdown is over.	Minn. R. 7019.1000, subp. 2
Shutdown Notifications: Notify the Commissioner at least 24 hours in advance of a planned shutdown of any control equipment or process equipment if the shutdown would cause any increase in the emissions of any regulated air pollutant. If the owner or operator does not have advance knowledge of the shutdown, notification shall be made to the Commissioner as soon as possible after the shutdown. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 3. At the time of notification, the owner or operator shall inform the Commissioner of the cause of the shutdown and the estimated duration. The owner or operator shall notify the Commissioner when the shutdown is over.	Minn. R. 7019.1000, subp. 3
Monitoring Equipment: Install or make needed repairs to monitoring equipment within 60 days of issuance of the permit if monitoring equipment is not installed and operational on the date the permit is issued.	Minn. R. 7007.0800, subp. 4(D)

TABLE A: LIMITS AND OTHER REQUIREMENTS

04/30/01

Facility Name: Minnesota Energy

Permit Number: 12900036 - 006

Monitoring Equipment Calibration: Annually calibrate all required monitoring equipment (any requirements applying to continuous emission monitors are listed separately in this permit).	Minn. R. 7007.0800, subp. 4(D)
Operation of Monitoring Equipment: Unless otherwise noted in Tables A, B, and/or C, monitoring a process or control equipment connected to that process is not necessary during periods when the process is shutdown, or during checks of the monitoring systems, such as calibration checks and zero and span adjustments. If monitoring records are required, they should reflect any such periods of process shutdown or checks of the monitoring system.	Minn. R. 7007.0800, subp. 4(D)
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.	Minn. R. 7011.0020
Application for Permit Amendment: If a permit amendment is needed, submit an 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.	Minn. R. 7007.1150 through Minn. R. 7007.1500
Emission Inventory Report: due 91 days after end of each calendar year following permit issuance (April 1). To be submitted on a form approved by the Commissioner.	Minn. R. 7019.3000 through Minn. R. 7019.3010
Emission Fees: due 60 days after receipt of an MPCA bill.	Minn. R. 7002.0005 through Minn. R. 7002.0095
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. Comply with all other requirements listed in Minn. R. 7011.0150.	Minn. R. 7011.0150
Inspections: The Permittee shall comply with the inspection procedures and requirements as found in Minn. R. 7007.0800, subp. 9(A).	Minn. R. 7007.0800, subp. 9(A)
Record keeping: 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.	Minn. R. 7007. 0800, subp. 5(B)
Record keeping: Retain all records at the stationary source for a period of five (5) years from the date of monitoring, sample, measurement, or report. Records which must be retained at this location include all calibration and maintenance records, all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Records must conform to the requirements listed in Minn. R. 7007.0800, subp. 5(A).	Minn. R. 7007.0800, subp. 5(C)
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).	Minn. R. 7007.1400, subp. 1(H)
Performance Testing: Conduct all performance tests in accordance with Minn. R. ch. 7017 unless otherwise noted in Tables A, B, and/or C.	Minn. R. ch. 7017
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.	Minn. R. 7017.2025

TABLE A: LIMITS AND OTHER REQUIREMENTS

04/30/01

Facility Name: Minnesota Energy

Permit Number: 12900036 - 006

Subject Item: GP 001 Temporary outdoor storage**Associated Items:** EU 025 Conveyor

FS 004 Temporary storage pile

What to do	Why to do it
Opacity: less than or equal to 5 percent opacity for fugitive emissions.	Minn. R. 7011.1005, subp. 3(A)
Clean up commodities 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)

TABLE A: LIMITS AND OTHER REQUIREMENTS

04/30/01

Facility Name: Minnesota Energy

Permit Number: 12900036 - 006

Subject Item: GP 002 Baghouse Operating & Monitoring Require**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 004 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

What to do	Why to do it
Operation and Maintenance of Fabric Filter: The Permittee shall operate and maintain the fabric filter according to the control equipment manufacturer's specifications.	Minn. R. 7007.0800, subp. 14
Visible Emissions: The Permittee shall check the outlet of each baghouse (SV 001, SV 002, SV 004) for any visible emissions, once each day of operation during daylight hours. The Permittee shall record the time and date of each visible emission inspection, and whether or not any visible emissions were observed.	Minn. R. 7007.0800, subp. 4
Corrective Actions: If visible emissions are observed, the Permittee shall follow the Operation and Maintenance plan for the fabric filter and take corrective actions as soon as possible to eliminate the visible emissions. The Permittee shall keep a record of the type and date of all corrective actions taken.	Minn. R. 7007.0800, subp. 14
Operate the baghouses at all times when the associated emission units are in operation.	Minn. R. 7011.1015
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 monthly, 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

TABLE A: LIMITS AND OTHER REQUIREMENTS

04/30/01

Facility Name: Minnesota Energy
Permit Number: 12900036 - 006

Subject Item: GP 003 Tanks subject to NSPS subp. Kb

Associated Items: TK 001 Ethanol
TK 002 Ethanol
TK 003 Off-spec ethanol
TK 004 Off-spec ethanol
TK 005 95% ethanol/ 5% gasoline
TK 006 Gasoline
TK 007 Gasoline

What to do	Why to do it
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)

TABLE A: LIMITS AND OTHER REQUIREMENTS

04/30/01

Facility Name: Minnesota Energy

Permit Number: 12900036 - 006

Subject Item: GP 004 Boilers subject to NSPS Subpart Dc**Associated Items:** EU 015 Boiler #1

EU 016 Boiler #2

EU 027 Main Boiler

What to do	Why to do it
Recordkeeping: Record and maintain records of the amounts of each fuel combusted on a monthly basis for the previous calendar month. These records may consist of fuel bills or meter readings.	40 CFR Section 60.13(l) and February 20, 1992, EPA memo to meet 40 CFR Section 60.48c(g) and (l); Minn. R. 7011.0570
Fuel Burned: Natural gas and propane only.	Minn. Stat. Section 116.07, subd. 4a; Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

04/30/01

Facility Name: Minnesota Energy

Permit Number: 12900036 - 006

Subject Item: SV 001**Associated Items:** EU 001 Corn transfer cyclone

EU 002 Pneumatic corn transfer

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.1 grains/dry standard cubic foot , or the allowable concentration at the exhaust flow rate, as described in Minn. R. 7011.0735	Minn. R. 7011.1005, subp. 3(D)
Opacity: less than or equal to 10 percent opacity	Minn. R. 7011.1005, subp. 3(D)

TABLE A: LIMITS AND OTHER REQUIREMENTS

04/30/01

Facility Name: Minnesota Energy

Permit Number: 12900036 - 006

Subject Item: SV 002**Associated Items:** EU 003 Surge bin #1

EU 004 Surge bin #2

What to do	Why to do it
A. EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.1 grains/dry standard cubic foot , or the allowable concentration at the exhaust flow rate, as described in Minn. R. 7011.0735	Minn. R. 7011.1005, subp. 3(D)
Opacity: less than or equal to 10 percent opacity	Minn. R. 7011.1005, subp. 3(D)
B. CONTROL EQUIPMENT REQUIREMENTS	hdr
Total Particulate Matter: greater than or equal to 33.2 percent collection efficiency (CE 002).	Minn. Stat. 116.07, subd. 4a [required to meet limit under Minn. R. 7011.1005, subp. 3(D)]

TABLE A: LIMITS AND OTHER REQUIREMENTS

04/30/01

Facility Name: Minnesota Energy

Permit Number: 12900036 - 006

Subject Item: SV 003**Associated Items:** EU 005 Hammermill

EU 006 Lime hopper

What to do	Why to do it
A. EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.17 lbs/hour (met by equipment capacity and production limitations).	Title I Condition: To avoid major source classification under 40 CFR Section 52.21
Total Particulate Matter: less than or equal to 0.1 grains/dry standard cubic foot , or the allowable concentration at the 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 0.17 lbs/hour (met by equipment capacity and production limitations).	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Opacity: less than or equal to 10 percent opacity	Minn. R. 7011.1005, subp. 3(D)
B. CONTROL EQUIPMENT REQUIREMENTS	hdr
Total Particulate Matter: greater than or equal to 99 percent collection efficiency (CE 003).	Title I Condition: To avoid major source classification under 40 CFR Section 52.21
Particulate Matter < 10 micron: greater than or equal to 97 percent collection efficiency (CE 003).	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200

TABLE A: LIMITS AND OTHER REQUIREMENTS

04/30/01

Facility Name: Minnesota Energy
Permit Number: 12900036 - 006

Subject Item: SV 004

Associated Items: EU 021 DDGS rail loadout

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.1 grains/dry standard cubic foot , or the allowable concentration at the exhaust flow rate, as described in Minn. R. 7011.0735	Minn. R. 7011.1005, subp. 3(D)
Opacity: less than or equal to 10 percent opacity	Minn. R. 7011.1005, subp. 3(D)

TABLE A: LIMITS AND OTHER REQUIREMENTS

04/30/01

Facility Name: Minnesota Energy

Permit Number: 12900036 - 006

Subject Item: SV 005**Associated Items:** EU 017 DDGS dryer

EU 018 Cooling cyclone

What to do	Why to do it
A. EMISSION and OPERATING LIMITS	hdr
Total Particulate Matter: less than or equal to 17.84 lbs/hour	Title I Condition: To avoid major source classification under 40 CFR Section 52.21
Total Particulate Matter: less than or equal to 0.055 grains/dry standard cubic foot , or the allowable concentration at the exhaust flow rate, as described in Minn. R. 7011.0735	Minn. R. 7011.0610, subp. 1(A)(1)
Particulate Matter < 10 micron: less than or equal to 17.84 lbs/hour	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Volatile Organic Compounds: less than or equal to 3.0 lbs/hour	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; 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 , except for one six-minute period per hour of not more than 60 percent opacity.	Minn. R. 7011.0610, subp. 1(A)(2)
Material Usage: less than or equal to 193.3 gallons/minute , combined centrifuge A & B feed rate, determined by dividing the total gallons processed by both centrifuges by the total operating time in an eight hour shift (downtime of 15 or more minutes is not included as operating time). DDGS dryer may not be operated at a higher production rate unless a performance test is conducted at a higher production rate and MPCA determines compliance at the higher production rate.	Minn. R. 7017.2025 (limit set as a result of 6/3/98 performance test)
Material Usage: less than or equal to 17.6 gallons/minute , syrup feed rate, determined by dividing the total gallons of syrup by the total operating time in an eight hour shift (downtime of 15 or more minutes is not included as operating time). DDGS dryer may not be operated at a higher production rate unless a performance test is conducted at a higher production rate and MPCA determines compliance at the higher production rate.	Minn. R. 7017.2025 (limit set as a result of 6/3/98 performance test)
B. CONTROL EQUIPMENT REQUIREMENTS	hdr
Total Particulate Matter: greater than or equal to 96.5 percent collection efficiency (CE 005).	Title I Condition: To avoid major source classification under 40 CFR Section 52.21
Particulate Matter < 10 micron: greater than or equal to 96.5 percent collection efficiency (CE 005).	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
C. TESTING REQUIREMENTS	hdr
Performance Test: due before end of each 60 months starting 10/31/2002 to measure PM, PM10, VOC, and opacity emissions. The first test is due on or before 10/31/2002. The tests shall be conducted at an interval not to exceed 60 months between test dates.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; Minn. R. 7017.2020, subp. 1; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Performance Test Notifications and Submittals: 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 days before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy: due 105 days after each Performance Test	Minn. R. 7017.2030, subp. 1-4 and Minn. R. 7017.2035, subp. 1-2

TABLE A: LIMITS AND OTHER REQUIREMENTS

04/30/01

Facility Name: Minnesota Energy

Permit Number: 12900036 - 006

Subject Item: SV 010

Associated Items: EU 007 Fermenter A
 EU 008 Fermenter B
 EU 009 Fermenter C
 EU 010 Fermenter D
 EU 011 Beer well
 EU 012 Beer stripper
 EU 013 Rectifier
 EU 014 Molecular sieve

What to do	Why to do it
A. EMISSION LIMITS	hdr
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0715, subp. 1(B)
Volatile Organic Compounds: less than or equal to 6.0 lbs/hour at outlet of control device.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
B. CONTROL EQUIPMENT REQUIREMENTS	hdr
Volatile Organic Compounds: greater than or equal to 97.4 percent collection efficiency (CE 006).	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
C. TESTING REQUIREMENTS	hdr
Performance Test: due before end of each 60 months starting 10/31/2002 to measure VOC emissions. The first test is due on or before 10/31/2002. The tests shall be conducted at an interval not to exceed 60 months between test dates.	Minn. R. 7017.2020, subp. 1
Performance Test Notifications and Submittals: 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 days before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy: due 105 days after each Performance Test	Minn. R. 7017.2030, subp. 1-4 and Minn. R. 7017.2035, subp. 1-2

TABLE A: LIMITS AND OTHER REQUIREMENTS

04/30/01

Facility Name: Minnesota Energy

Permit Number: 12900036 - 006

Subject Item: EU 016 Boiler #2**Associated Items:** GP 004 Boilers subject to NSPS Subpart Dc
SV 007

What to do	Why to do it
A. OPERATING REQUIREMENTS	hdr
Operating Hours: less than or equal to 1500 hours/year using 12-month Rolling Sum . This restriction is effective on the date of initial startup of the Main Boiler (EU 027).	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Fuel Burned: Natural gas and propane only.	Minn. Stat. Section 116.07, subd. 4a; Minn. R. 7007.0800, subp. 2
B. RECORDKEEPING REQUIREMENTS	hdr
Recordkeeping: by the 15th day of each month, calculate and record the hours of operation for EU 016 (Boiler No. 2) for the previous month. This requirement is effective on the date of initial startup of the Main Boiler (EU 027). (See GP 004 for additional recordkeeping requirements).	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Recordkeeping: by the 15th day of each month, calculate and record the total operating hours of EU 016 (Boiler No. 2) for the previous 12-month period (12-month rolling sum). This requirement is applicable on the date of initial startup of the Main Boiler (EU 027). (See GP 004 for additional recordkeeping requirements).	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200

TABLE A: LIMITS AND OTHER REQUIREMENTS

04/30/01

Facility Name: Minnesota Energy
Permit Number: 12900036 - 006

Subject Item: EU 017 DDGS dryer
Associated Items: CE 005 Multiple Cyclone w/o Fly Ash Reinjection - Most Multiclones
SV 005

What to do	Why to do it
Fuel Burned: Natural gas and propane only.	Minn. Stat. 116.07, subd. 4a; Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

04/30/01

Facility Name: Minnesota Energy

Permit Number: 12900036 - 006

Subject Item: EU 026 Temporary (back-up) boiler**Associated Items:** SV 011 Backup Boiler

What to do	Why to do it
A. OPERATING REQUIREMENTS	hdr
Operating Hours: less than or equal to 1500 hours/year using 12-month Rolling Sum	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Fuel Burned: Natural gas only.	Minn. Stat. Section 116.07, subd. 4a; Minn. R. 7007.0800, subp. 2
B. RECORDKEEPING REQUIREMENTS	hdr
Recordkeeping: by the 15th day of each month, calculate and record the hours of boiler operation (EU 026 only) for the previous month.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Recordkeeping: by the 15th day of each month, calculate and record the total operating hours of EU 026 for the previous 12-month period (12-month rolling sum).	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Recordkeeping: Record and maintain records of the amounts of each fuel combusted on a monthly basis for the previous calendar month. These records may consist of fuel bills or meter readings.	40 CFR Section 60.13(l) and February 20, 1992, EPA memo to meet 40 CFR Section 60.48c(g) and (l); Minn. R. 7011.0570

TABLE A: LIMITS AND OTHER REQUIREMENTS

04/30/01

Facility Name: Minnesota Energy

Permit Number: 12900036 - 006

Subject Item: CE 003 Fabric Filter - Low Temperature, i.e., T<180 Degrees F**Associated Items:** EU 005 Hammermill

EU 006 Lime hopper

What to do	Why to do it
Operation and Maintenance of Fabric Filter: The Permittee shall operate and maintain the fabric filter according to the control equipment manufacturer's specifications.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 14
Visible Emissions: The Permittee shall check the outlet of the baghouse (SV 003) for any visible emissions, once each day of operation during daylight hours. The Permittee shall record the time and date of each visible emission inspection, and whether or not any visible emissions were observed.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 14
Corrective Actions: If visible emissions were observed, the Permittee shall follow the Operation and Maintenance plan for the fabric filter and take corrective actions as soon as possible to eliminate the visible emissions. 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; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 14
Operate the baghouse at all times when the associated emission units are in operation.	Minn. R. 7011.1015
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 monthly, 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

TABLE A: LIMITS AND OTHER REQUIREMENTS

04/30/01

Facility Name: Minnesota Energy

Permit Number: 12900036 - 006

Subject Item: CE 005 Multiple Cyclone w/o Fly Ash Reinjection - Most Multiclones**Associated Items:** EU 017 DDGS dryer

EU 018 Cooling cyclone

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 4 inches of water column , or as determined during most recent performance test demonstrating compliance.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200.
Record the pressure drop at the cyclone once each day of operation.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Corrective Action: If the pressure drop is not within the specified range of values, the Permittee shall take corrective action as soon as possible to return the pressure drop to within the required range. 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; 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 monthly, 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 drop gauge annually, or as often as required by manufacturer's 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
Operate the cyclone at all times when the associated emission units are in operation.	Minn. R. 7011.1015

TABLE A: LIMITS AND OTHER REQUIREMENTS

04/30/01

Facility Name: Minnesota Energy

Permit Number: 12900036 - 006

Subject Item: CE 006 Gas Scrubber (General, Not Classified)**Associated Items:** EU 007 Fermenter A

EU 008 Fermenter B

EU 009 Fermenter C

EU 010 Fermenter D

EU 011 Beer well

EU 012 Beer stripper

EU 013 Rectifier

EU 014 Molecular sieve

What to do	Why to do it
Pressure Drop: greater than or equal to 10 inches of water column and less than or equal to 14 inches of water column , or as determined during most recent performance test demonstrating compliance.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200.
Water flow rate: greater than or equal to 66 gallons/minute (nominal) with 1 to 2 gallons per minute makeup.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR section 70.2 and Minn. R. 7007.0200
Record the pressure drop and water flow rate once each day of operation.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Corrective Action: If the pressure drop and/or the water flow rate are not within the ranges specified herein, 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.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; 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 monthly, 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 manufacturer's 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

04/30/01

Facility Name: Minnesota Energy

Permit Number: 12900036 - 006

Subject Item: TK 005 95% ethanol/ 5% gasoline**Associated Items:** GP 003 Tanks subject to NSPS subp. Kb

What to do	Why to do it
A. POLLUTION CONTROL REQUIREMENTS	hdr
The 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)
The internal roof shall be equipped with the following closure devices between the wall of the storage vessel and the edge of the internal floating roof: (B) Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor-mounted, but both must be continuous.	40 CFR Section 60.112b(a)(1)(ii)(B); Minn. R. 7011.1520 (C)
B. MONITORING REQUIREMENTS	hdr
Visually inspect the internal floating roof, the primary seal, and the secondary seal, 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)
Visually inspect the internal floating roof, the primary seal, and the secondary seal through manholes and roof hatches on the fixed roof at least once every twelve (12) months after initial fill as required by this paragraph.	40 CFR Section 60.113b(a)(3)(ii); Minn. R. 7011.1520 (C)
Visually inspect the internal floating roof, the primary seal, the secondary seal, gaskets, slotted membranes, and sleeve seals (if any) each time the storage vessel is emptied and degassed, as required by this paragraph. In no event shall inspections conducted in accordance with this provision occur at intervals greater than five (5) years.	40 CFR Section 60.113b(a)(3)(i); 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)(1), (a)(2), (a)(3), and (a)(4). 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)
D. REPORTING REQUIREMENTS	hdr
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)
Notification: If an inspection is required (under 40 CFR Section 60.113b(a)(1) or 40 CFR Section 60.113b(a)(3)(i)), notify the Administrator in writing at least thirty (30) days prior to the filling or refilling of the storage vessel, to afford the Administrator the opportunity to have an observer present. If the inspection is not planned and the owner or operator 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 refilling the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Administrator at least 7 days prior to refilling.	40 CFR Section 60.115b(a)(5); Minn. R. 7011.1520 (C)

TABLE A: LIMITS AND OTHER REQUIREMENTS

04/30/01

Facility Name: Minnesota Energy

Permit Number: 12900036 - 006

Subject Item: FS 001 Uncaptured DDGS emissions

What to do	Why to do it
Clean up commodities 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 railcar loading of DDGS or DDGS handling 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

04/30/01

Facility Name: Minnesota Energy
Permit Number: 12900036 - 006

Subject Item: FS 003 Truck traffic

What to do	Why to do it
Fugitive Emissions: Do not cause or permit the transporting of any material in a manner which may allow avoidable amounts of particulate matter to become 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

04/30/01

Facility Name: Minnesota Energy

Permit Number: 12900036 - 006

Subject Item: FS 005 Tank valves, flanges & seals

What to do	Why to do it
STANDARDS: PUMPS	hdr
Pumps in light liquid service: (a)(1) Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in 40 CFR Section 60.482-1(c) and paragraphs (d), (e), and (f). (2) Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the seal.	40 CFR Section 60.482-2(a)
(b)(1) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected. (2) If there are indications of liquids dripping from the pump seal, a leak is detected. (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 proved in 40 CFR 60.482-9 (Delay of Repair). (2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.	40 CFR 60.482-2(b) and (c)
STANDARDS: COMPRESSORS	hdr
(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).	40 CFR 60.482-3(a)
(b) Each compressor seal system shall be: (1) Operated with the barrier fluid at a pressure that is greater than the compressor stuffing box pressure; or (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 (3) Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere.	40 CFR 60.482-3(b)
(c) The barrier fluid system shall be in heavy liquid service or shall not be in VOC service. (d) Each barrier fluid system shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.	40 CFR 60.482-3(c) and (d)
(e)(1) Each sensor shall be checked daily or shall be equipped with an audible alarm. (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.	40 CFR 60.482-3(e)
(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.	40 CFR 60.482-3(f)
(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 provided in 40 CFR 60.482-9 (Delay of Repair). (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.	40 CFR 60.482-3(g)
STANDARDS: PRESSURE RELIEF DEVICES IN GAS/VAPOR SERVICE	hdr
(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).	40 CFR 60.482-4(a)
(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 (Delay of Repair).	40 CFR 60.482-4(b)
STANDARDS: SAMPLING CONNECTION SYSTEMS	hdr

TABLE A: LIMITS AND OTHER REQUIREMENTS

04/30/01

Facility Name: Minnesota Energy

Permit Number: 12900036 - 006

(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).	40 CFR 60.482-5(a)
(b) Each closed-purge, closed-loop, or closed-vent system shall: (1) Return the purged process fluid directly to the process line; or (2) Collect and recycle the purged process fluid to a process; or (3) Be designed 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. (c) In situ sampling systems are exempt from these requirements.	40 CFR 60.482-5(b) and (c)
STANDARDS: OPEN ENDED VALVES OR LINES	hdr
(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). (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.	40 CFR 60.482-6(a)
(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. (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.	40 CFR 60.482-6(b) and (c)
STANDARDS: VALVES	hdr
(a) Each valve shall be monitored monthly to detect leaks by the methods specified in 40 CFR 60.485(b).	40 CFR 60.482-7(a)
(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected. (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. (2) If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months.	40 CFR 60.482-7(b) and (c)
(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 provided in 40 CFR 60.482-9. (2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.	40 CFR 60.482-7(d)
(e) First attempts at repair include, but are not limited to, the following best practices where practicable: (1) Tightening of bonnet bolts; (2) Replacement of bonnet bolts; (3) Tightening of packing gland nuts; (4) Injection of lubricant into lubricated packing.	40 CFR 60.482-7(e)
STANDARDS: PUMPS AND VALVES IN HEAVY LIQUID SERVICE, PRESSURE RELIEF DEVICES IN LIGHT LIQUID OR HEAVY LIQUID SERVICE, AND FLANGES, AND OTHER CONNECTORS	hdr
(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.	40 CFR 60.482-8(a)
(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected. (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). (2) The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.	40 CFR 60.482-8(b) and (c)
(d) First attempts at repair include, but are not limited to, the best practices described under 40 CFR 60.482-7(e).	40 CFR 60.482-8(d)
DELAY OF REPAIR	hdr

TABLE A: LIMITS AND OTHER REQUIREMENTS

04/30/01

Facility Name: Minnesota Energy

Permit Number: 12900036 - 006

(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.	40 CFR 60.482-9(a) and (b)
(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.	
(c) Delay of repair for valves will be allowed if: (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 (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.	40 CFR 60.482-9(c)
(d) Delay of repair for pumps will be allowed if: (1) Repair required the use of a dual mechanical seal system that includes a barrier fluid system, and (2) Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.	40 CFR 60.482-9(d)
(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.	40 CFR 60.482-9(e)
TESTING PROCEDURES	hdr
Compliance shall be determined by the methods specified in 40 CFR 60.485.	40 CFR 60.485
RECORDKEEPING	hdr
(b) When each leak is detected, the following requirements apply: (1) A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment. (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. (3) The identification on equipment except on a valve, may be removed after it has been repaired.	40 CFR 60.486(b)
(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: (1) The instrument and operator identification numbers and the equipment identification number. (2) The date the leak was detected and the dates of each attempt to repair the leak. (3) Repair methods applied in each attempt to repair the leak. (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.	40 CFR 60.486(c)
(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.	40 CFR 60.486(c)
REPORTING REQUIREMENTS	hdr
(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.	40 CFR 60.487(a)
(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	40 CFR 60.487(b)

TABLE A: LIMITS AND OTHER REQUIREMENTS

04/30/01

Facility Name: Minnesota Energy

Permit Number: 12900036 - 006

<p>(c) All semiannual reports to the Administrator shall include the following information, summarized from the information in 40 CFR 60.486;</p> <p>(1) Process unit identification.</p> <p>(2) For each month during the semiannual reporting period,</p> <p>(i) Number of valves for which leaks were detected as described in 40 CFR 60.482(7)(b) or 40 CFR 60.483-2</p> <p>(ii) Number of valves for which leaks were not repaired as required in 40 CFR 60.482-7(d)(1),</p> <p>(iii) Number of pumps for which leaks were detected as described in 40 CFR 60.482-2(b) and (d)(6)(i),</p> <p>(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>	40 CFR 60.487(c)
<p>(v) Number of compressors for which leaks were detected as described in 40 CFR 60.482-3(f),</p> <p>(vi) Number of compressors for which leaks were not repaired as required in 40 CFR 60.482-3(g)(1)</p> <p>(vii) The facts that explain each delay of repair and, where appropriate, why a process unit shutdown was technically infeasible.</p>	40 CFR 60.487(c)
<p>(3) Dates of process unit shutdowns which occurred within the semiannual reporting period.</p> <p>(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>	40 CFR 60.487(c)
<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 that 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>	40 CFR 60.487(e)

TABLE B: SUBMITTALS

04/30/01

Facility Name: Minnesota Energy
Permit Number: 12900036 - 006

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:

Permit Technical Advisor
Permit Section
Air Quality 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:

Supervisor
Compliance Determination Unit
Air Quality 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

04/30/01

Facility Name: Minnesota Energy

Permit Number: 12900036 - 006

What to send	When to send	Portion of Facility Affected
Notification of the Actual Date of Initial Startup	due 15 days after Initial Startup	EU026, EU027
Notification of the Anticipated Date of Initial Startup	due 30 days before Anticipated Date of Initial Startup	EU026, EU027
Notification of the Date Construction Began	due 30 days after Start Of Construction	EU026
Notification of the Date Construction Began	due 30 days after Start Of Construction	EU027
Notification	due 14 days after Equipment Removal and/or Dismantlement. Notification shall include the date that the boiler was removed from the site.	EU026
Notification	due 14 days before Resuming Operation of the boiler, in the event that it is brought back on site after it has been removed. Notification shall include the date that the boiler was brought back on site, and the date operation is expected to resume.	EU026

TABLE B: RECURRENT SUBMITTALS

04/30/01

Facility Name: Minnesota Energy

Permit Number: 12900036 - 006

What to send	When to send	Portion of Facility Affected
Semiannual Deviations Report	due 30 days after end of each calendar half-year following Permit Issuance . The first semiannual report submitted by the Permittee shall cover the calendar half-year in which the permit is issued. The first report of each calendar year covers January 1 - June 30. The second report of each calendar year covers July 1 - December 31. If no deviations occur, Permittee shall submit a report stating that no deviations occurred.	Total Facility
Compliance Certification	due 30 days after end of each calendar year following Permit Issuance (for the previous calendar year). To be submitted on a form approved by the Commissioner. The report covers all deviations experienced during the calendar year.	Total Facility

TECHNICAL SUPPORT DOCUMENT
For
AIR EMISSION PERMIT NO. 12900036-006

This technical support document is for all the interested parties of the permit. The purpose of this document is to set forth the legal and factual basis for the draft permit conditions, including references to the applicable statutory or regulatory provisions.

1. General Information

1.1. Applicant and Stationary Source Location:

Owner/Operator Address and Phone Number	Facility Address (SIC Code: 2869)
Minnesota Energy P.O. Box 218 Buffalo Lake, Minnesota 55314	Minnesota Energy 777 West Borden Ave Buffalo Lake Renville County
Contact: Jennifer Kenney (320) 833-5939	

1.2. Description Of The Facility

The Permittee operates a 14,500,000-gallon per year fuel ethanol production plant in Buffalo Lake, Renville County, Minnesota. Emissions from this facility include particulate matter from the handling of corn and handling and drying of DDGS (distillers dried grains with solubles, a by-product consisting of solid matter from spent corn); volatile organic compounds from fermentation, distillation, storage, and loadout of ethanol; and combustion products (primarily nitrogen oxides) from combustion of natural gas and propane in the dryer and the two boilers. The existing permit contains conditions limiting the air emissions to less than 100 tons per year for each criteria pollutant, so that the facility is considered a non-major source under 40 CFR 52.21, 40 CFR 70.2, and Minn. R. 7007.0200.

1.3. Description of the Activities Allowed By This Permit Action

This permit action allows for the installation and operation of a new 60.68 million Btu/hr gas-fired boiler at the facility. An existing 29.29 million Btu/hr gas-fired boiler (EU 016) will be restricted to 1,500 hours per year to maintain minor source status under 40 CFR 70.2 and 40 CFR 52.21.

In addition to the above, a correction is being made to the opacity limit for SV 005 for the DDGS dryer (EU 017). A discussion of this issue is included in Section 3 of this document.

1.4. Facility Emissions:

Table 1. Emissions Associated With the Modification

Permit Action Number:
Date: 2/5/2004

Pollutant	Potential to Emit (PTE) from the new boiler (lb/hr)	PTE from the new boiler (TPY)	Emissions Decrease (TPY)*	Net Emission Change (TPY)	Currently Permitted Facility-Wide PTE (TPY)**
PM	0.46	2.0	0.76	+1.2	92.0
PM10	0.46	2.0	0.76	+1.2	84.6
SO2	0.0	0.0	0.0	0.0	0.27
NOx	2.63	11.5	22.1	-10.6	89.5
VOC	0.33	1.5	0.6	+0.9	60.9
CO	5.0	21.9	8.5	+13.4	37.7
Lead	0.0	0.0	0.0	0.0	0.0

*Due to limiting the existing Boiler #2 (EU 016) to 1,500 hours per year. This boiler currently has no limitation on hours of operation.

** This column shows the permitted facility-wide potential to emit before the modification. Summing the net emission change and the emissions in this column gives the facility-wide potential to emit after the modification, which is shown in Table 2.

Table 2. Facility-wide Potential to Emit

	PM tpy	PM10 tpy	SO2 tpy	NOx tpy	CO tpy	VOC tpy	Pb tpy	Single HAP tpy	All HAPs tpy
Total Facility Limited Potential Emissions	93.2	85.8	0.27	78.9	51.1	61.8	0.0	0.037	0.037
Total Facility Actual Emissions*	87.0	42.5	0.2	26.6	21.9	32.5	0.0	NR**	NR**

* Based on 1998 emissions.

** NR = Not Reported (not required to be reported).

Table 3. Permit Action Classification

Classification	Major/Affected Source	*Synthetic Minor	*Minor
PSD		PM, PM ₁₀ , NO _x , CO, VOC	SO ₂
NAAR (Not Applicable)			
Part 70 Permit Program		PM ₁₀ , NO _x , CO, VOC	Single HAP, Total HAPs, SO ₂

* Refers to potential emissions that are less than those specified as major by 40 CFR 52.21, 40 CFR pt. 51 Appendix S, and 40 CFR pt. 70.

Permit Action Number:

Date: 2/5/2004

2. Regulatory and/or Statutory Basis

Summary Regulatory and/or Statutory Basis of the Emission or operational Limit

Regulatory Overview of Units Affected by the Modification

Table 4. Regulatory Overview

*EU, GRP, or SV #	Applicable Regulations	**Comments
EU 027	40 CFR 60 Subp. Dc	The Permittee is required to record and maintain records of the amounts of each fuel combusted on a monthly basis for the previous calendar month.
EU 016	40 CFR 70.2 40 CFR 52.21	The operating hours of boiler No. 2 (EU 016) are restricted to 1,500 hours per year to avoid major source classification under 40 CFR 52.21 and 40 CFR 70.2.
EU 017 (SV 005)	Minn. R. 7011.0610, subp. 1(A)(2)	Standards of Performance for Fossil-Fuel-Burning Direct Heating Equipment.

3. Technical Information

3.1 Opacity Limit for the DDGS Dryer (EU 017)

The DDGS Dryer was previously permitted with an opacity limit of 10% opacity. This limit was based on Minn. R. 7011.1005, Standards of performance for dry bulk agricultural commodity facilities. It was determined that this standard does not apply to the DDGS dryer at the facility. It was determined that the applicable standard is Minn. R. 7011.0610, Standards of Performance for Fossil-Fuel-Burning Direct Heating Equipment, which establishes an opacity limit of 20% opacity, except for one six-minute period per hour of not more than 60% opacity. The draft permit amends the permit to include the correct opacity standard.

3.2 Emission Calculations (New Main Boiler)

Emissions from the new Main Boiler (EU 027) were calculated as follows:

$\text{NOx emission rate (lb/hr)} = 60.68 \text{ million Btu/hr} (0.0433 \text{ lb/MM Btu})^* = 2.63 \text{ lb/hr}$

$\text{NOx emission rate (tpy)} = 2.63 \text{ lb/hr} (8760 \text{ hr/yr}) (1 \text{ ton}/2,000 \text{ lb}) = 11.5 \text{ tpy}$

* Based on manufacturer's data. The unit is equipped with a low NOx burner and flue gas recirculation to control emissions of NOx. For a small (< 100 million Btu/hr) boiler with low NOx burners/FGR, AP-42 gives an emission factor of 0.031 lb/MM Btu. For propane, AP-42 calculates propane/butane emission factors for NOx by multiplying NOx emission factors for natural gas by a correction factor of 1.5. Multiplying the NOx emission factor of 0.031 lb/MM

Permit Action Number:

Date: 2/5/2004

Btu by 1.5 gives an emission factor for propane combustion (with low NO_x burners/FGR) of 0.047 lb/MM Btu, which is close to the emission factor of 0.0433 lb/MM Btu given by the manufacturer.

PM/PM₁₀ emission rate (lb/hr) = 60.68 million Btu/hr (0.0075 lb/MM Btu)** = 0.46 lb/hr
PM/PM₁₀ emission rate (tpy) = 0.46 lb/hr(8760 hr/yr)(1 ton/2,000 lb) = 2.0 tpy

CO emission rate (lb/hr) = 60.68 million Btu/hr (0.082 lb/MM Btu)** = 5.0 lb/hr
CO emission rate (tpy) = 5.0 lb/hr(8760 hr/yr)(1 ton/2,000 lb) = 21.9 tpy

VOC emission rate (lb/hr) = 60.68 million Btu/hr (0.0054 lb/MM Btu)** = 0.33 lb/hr
VOC emission rate (tpy) = 0.33 lb/hr(8760 hr/yr)(1 ton/2,000 lb) = 1.5 tpy

** Based on AP-42 emission factors.

3.3 Emissions Decrease (Due to Limiting Hours of Operation of EU 016)

Maximum potential annual emissions from boiler No. 2 will be decreased by limiting the hours of operation of the boiler to 1,500 hours per year. The annual potential to emit from the boiler was determined in previous permitting actions. Limiting the hours of operation from unrestricted operations (8,760 hr/yr) to 1,500 hr/yr will result in the following decrease in maximum annual potential emissions:

NO_x emissions decrease = 6.08 lb/hr(8,760 hr/yr – 1,500 hr/yr)(1 ton/2,000 lb) = 22.1 ton/yr

PM/PM₁₀ emissions decrease = 0.21 lb/hr(8,760 hr/yr – 1,500 hr/yr)(1 ton/2,000 lb) = 0.76 ton/yr

CO emissions decrease = 2.34 lb/hr(8,760 hr/yr – 1,500 hr/yr)(1 ton/2,000 lb) = 8.5 ton/yr

VOC emissions decrease = 0.16 lb/hr(8,760 hr/yr – 1,500 hr/yr)(1 ton/2,000 lb) = 0.6 ton/yr

4. Conclusion

Based on the information provided by Minnesota Energy, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 12900036-006 and this technical support document, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team: Craig Thorstenson, Glenn Giefer
Peer Review: Stuart Arkley

Attachments: None

Permit Action Number:
Date: 2/5/2004