

**AIR EMISSION PERMIT NO. 12900036- 012**

**IS ISSUED TO**

**MINNESOTA ENERGY**  
777 Borden Avenue West  
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	Permit Action	Issuance Date
Total Facility Operating Permit		002	May 12, 1998
Major Amendment	09/28/1998	003	December 14, 1998
Moderate Amendment	07/26/1999	004	October 28, 1999
Major Amendment	11/06/2000	005	October 26, 2000
Major Amendment	01/02/2001	006	April 30, 2001
Major Amendment	02/22/2001	007	June 4, 2001
Administrative Amendment	11/26/2001	008	February 8, 2002
Administrative Amendment	3/21/2002	009	April 16, 2002
Administrative Amendment	11/12/2002	010	November 22, 2002
Major Amendment	1/30/2006	012	See below

This permit authorizes the Permittee to operate 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: March 31, 2006**

**Issue Date:** May 12, 1998

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

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

for Sheryl A. Corrigan  
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:**

Minnesota Energy Cooperative near Buffalo Lake is requesting a 4.5 MMgpy increase in their undenatured ethanol production. The new permitted capacity will be 23.5 MMgpy. The increased production rate is due primarily to production efficiencies and operating improvements at the facility. No new equipment will be installed.

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-1**

03/31/06

Facility Name: Minnesota Energy

Permit Number: 12900036 - 012

**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**

<b>What to do</b>	<b>Why to do it</b>
Production: less than or equal to 23.5 million gallons/year using 12-month Rolling Sum of 200 proof fuel ethanol (finished, distilled product, prior to addition of denaturant (gasoline)).	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
HAPs - Total: less than or equal to 24 tons/year using 12-month Rolling Sum to be calculated by the 15th day of each month for the previous 12-month period.	Title I Condition: Limit to avoid major source classification under 40 CFR Section 70.2; and to avoid major source classification under 40 CFR Section 63.2; Consent Decree Para. 15(i)
HAP-Single: less than or equal to 9 tons/year using 12-month Rolling Sum to be calculated by the 15th day of each month for the previous 12-month period.	Title I Condition: Limit to avoid major source classification under 40 CFR Section 70.2; and to avoid major source classification under 40 CFR Section 63.2; Consent Decree para. 15(i)
Monthly Recordkeeping - HAP Emissions. By the 15th of the month, the Permittee shall calculate and record the following using the formulas specified in this permit: 1). The total HAP containing materials used in the previous calendar month using the daily production records. This record shall also include the individual and total HAP contents of each HAP containing material used in the previous month, as determined by the Material Content requirement of this permit. 2). The total and individual HAP emissions for the previous month using the formulas specified in this permit. 3). The 12 month rolling sum total and individual HAP emissions for the previous 12 month period by summing the monthly emissions data for the previous 12 months. 4). The Total and individual HAP emissions produced as byproducts of the fermentation process.	Minn. R. 7007.0800, subp. 4 and 5
Monthly Calculation -- HAP Emissions. The Permittee shall calculate each individual HAP and total HAP emissions using the following equations:  HAP Emissions (tons/month) = H - W H = (A1 x B1) + (A2 x B2) + (A3 x B3) + .... W = (C1 x D1) + (C2 x D2) + (C3 x D3) +	Minn. R. 7007.0800, subp. 4 and 5
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. 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.	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

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-2**

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Facility Name: Minnesota Energy

Permit Number: 12900036 - 012

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 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 on or before April 1 of each calendar year following permit issuance. 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)

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-3**

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Facility Name: Minnesota Energy

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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

Facility Name: Minnesota Energy  
Permit Number: 12900036 - 012

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****A-5**

03/31/06

Facility Name: Minnesota Energy

Permit Number: 12900036 - 012

**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&lt;180 Degrees F

CE 004 Fabric Filter - Low Temperature, i.e., T&lt;180 Degrees F

What to do	Why to do it
Total Particulate Matter: greater than or equal to 99 percent control efficiency	Title I Condition: Limit taken to avoid classification as a major source and modification under 40 CFR Section 52.21; Minn. R. 7007.0800, subp. 2 and 14
Particulate Matter < 10 micron: greater than or equal to 99 percent control efficiency	Title I Condition: Limit taken to avoid classification as a major source and modification under 40 CFR Section 52.21; Minn. R. 7007.0800, subp. 2 and 14
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

Facility Name: Minnesota Energy  
Permit Number: 12900036 - 012

Subject Item: GP 003 Tanks subject to NSPS Subpart 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****A-7**

03/31/06

Facility Name: Minnesota Energy

Permit Number: 12900036 - 012

**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(i) and February 20, 1992, EPA memo to meet 40 CFR Section 60.48c(g) and (i); 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****A-8**

03/31/06

Facility Name: Minnesota Energy

Permit Number: 12900036 - 012

**Subject Item:** GP 005 Valves, flanges, etc. subject to NSPS Subpart VV**Associated Items:** FS 005 Tank valves, flanges & seals

FS 007 Misc valves, flanges, etc (distillation/fermentation bldg)

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)

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-9**

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Facility Name: Minnesota Energy

Permit Number: 12900036 - 012

STANDARDS: SAMPLING CONNECTION SYSTEMS	hdr
(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****A-10**

03/31/06

Facility Name: Minnesota Energy

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(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****A-11**

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Facility Name: Minnesota Energy

Permit Number: 12900036 - 012

(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),	40 CFR 60.487(c)
(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.	40 CFR 60.487(c)
(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.	40 CFR 60.487(c)
(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.	40 CFR 60.487(e)

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-12**

03/31/06

Facility Name: Minnesota Energy

Permit Number: 12900036 - 012

**Subject Item: GP 006 NOx Emissions****Associated Items:** CE 011 Regenerative Thermal Oxidizer

EU 015 Boiler #1

EU 016 Boiler #2

EU 017 DDGS dryer

EU 026 Temporary (back-up) boiler

EU 027 Main Boiler

SV 005 Dryer System

SV 006

SV 007 Boilers

SV 011 Backup Boiler

SV 012

What to do	Why to do it
Nitrogen Oxides: less than or equal to 0.04 lbs/million Btu heat input . This limit applies individually to EU 015, EU 016, EU 017, EU 026, EU 027, and CE 011. Unless the group NOx limit is being complied with. This limit applies to NOx generated by natural gas combustion only.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and 40 CFR Section 70.2; Consent Decree para. 15(g)
Nitrogen Oxides: less than or equal to 0.08 lbs/million Btu heat input . This limit applies individually to EU 015, EU 016, EU 017, EU 026, EU 027, and CE 011. Unless the group NOx limit is being complied with. This limit applies to NOx generated by propane combustion only.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and 40 CFR Section 70.2; Consent Decree para. 15(g)
Nitrogen Oxides: less than or equal to 31.43 tons/year using 12-month Rolling Sum . Emission factors for each unit (EU 015, EU 016, EU 017, EU 026, EU 027, CE 011) shall be set based on the initial performance test. If the emissions factors established by the initial performance test are lower than the 0.04 lb/MMBtu for Natural gas or the 0.08 lb/MMBtu for propane limit for all emissions units in the group, then the 0.04 lb/MMBtu heat input limit for Natural Gas or 0.08 lb/MMBtu for propane shall be applied to each unit in the group, and the group NOx limit shall not apply.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and 40 CFR Section 70.2; Consent Decree para. 15(g)
Recordkeeping - Fuel Usage: Once each day, record the cubic feet of natural gas and propane combusted by all units in GP 006 during the previous day.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and 40 CFR Section 70.2
The Permittee will calculate the weekly NOx emission and rolling 52 week total NOx emissions using the equation contained in Appendix I of this permit.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and 40 CFR Section 70.2

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-13**

03/31/06

Facility Name: Minnesota Energy

Permit Number: 12900036 - 012

**Subject Item:**        **SV 001   Pneumatic Corn Transfer****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****A-14**

03/31/06

Facility Name: Minnesota Energy

Permit Number: 12900036 - 012

**Subject Item:** SV 002 Corn Storage**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****A-15**

03/31/06

Facility Name: Minnesota Energy

Permit Number: 12900036 - 012

**Subject Item:** SV 003 Milling**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 0.1 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 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 99 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****A-16**

03/31/06

Facility Name: Minnesota Energy

Permit Number: 12900036 - 012

**Subject Item:** SV 004 DDGS Rail Loadout**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)
All rail cars must be dedicated fleet (carry only ethanol). No loadout controls are required for dedicated fleet rail cars.  To be considered dedicated, the rail cars must be placarded as ethanol transportation cars.	Title I Conditon: To avoid major source classification under 40 CFR Section 52.21 and 40 CFR Section 70.2

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-17**

03/31/06

Facility Name: Minnesota Energy

Permit Number: 12900036 - 012

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

GP 006 NOx Emissions

What to do	Why to do it
A. EMISSION and OPERATING LIMITS	hdr
Volatile Organic Compounds: greater than or equal to 95 percent control efficiency or less than or equal to 10 ppm as total mass of VOC.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and 40 CFR Section 70.2; Consent Decree para. 15(a)
Carbon Monoxide: greater than or equal to 90 percent control efficiency or less than or equal to 100 ppm.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and 40 CFR Section 70.2; Consent Decree para. 15(a)
Total Particulate Matter: less than or equal to 16.3 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 16.3 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 13.34 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 215.5 gallons/minute , combined centrifuge feed rate, determined by dividing the total gallons processed by all centrifuges by the total operating time in an eight hour shift (downtime of 15 or more minutes is not included as operating time).	Minn. R. 7017.2025 (limit to be set as a result of performance testing)
Material Usage: less than or equal to 36 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).	Minn. R. 7017.2025 (limit to be set as a result of performance testing)
The Permittee shall monitor and record the syrup and centrifuge feed rates hourly.	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
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 year starting 02/23/2006 to measure PM, PM10, VOC, CO, and NOx emissions.	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****A-18**

03/31/06

Facility Name: Minnesota Energy

Permit Number: 12900036 - 012

**Subject Item: SV 010 Process Scrubber Stack**

**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 A  
 EU 013 Stripper Rectifier A  
 EU 014 Molecular Sieve A  
 EU 028 Fermenter E  
 EU 029 Fermenter F  
 EU 030 Beer Stripper B  
 EU 031 Stripper Rectifier B  
 EU 032 Molecular Sieve B  
 EU 033 Molecular Sieve C

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)
Emissions from SV 010 may be vented direct to atmosphere for no more than 1,450 hours/year. At all other times, emissions from SV 010 shall be vented to the thermal oxidizer (CE 011).	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: greater than or equal to 95 percent control efficiency or less than or equal to 20 ppm if the inlet concentration of VOC is less than 200 ppm of VOC as total mass of VOC.	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; Consent Decree para. 15(b)
Volatile Organic Compounds: less than or equal to 19.5 lbs/hour at the outlet of control device CE 009.	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
The Permittee shall keep daily records of the number of hours the Process Scrubber emissions are vented to the atmosphere. By the 15th of each month, calculate the number of hours the process scrubber emissions were vented to atmosphere for the previous 12-month period.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source
Performance Test: due before end of each year starting 02/23/2006 to measure VOC emissions.	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 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.	Minn. R. 7017.2030, subp. 1-4; Minn. R. 7017.2018 and Minn. R. 7017.2035, subp. 1-2

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-19**

03/31/06

Facility Name: Minnesota Energy

Permit Number: 12900036 - 012

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

GP 006 NOx Emissions

SV 007 Boilers

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

Facility Name: Minnesota Energy  
Permit Number: 12900036 - 012

Subject Item: EU 017 DDGS dryer  
Associated Items: CE 011 Regenerative Thermal Oxidizer  
GP 006 NOx Emissions  
SV 005 Dryer System

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

Facility Name: Minnesota Energy  
Permit Number: 12900036 - 012

Subject Item: EU 019 DDGS storage building

Associated Items: SV 008 DDGS Storage Truck Loadout

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)



TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Minnesota Energy  
Permit Number: 12900036 - 012

Subject Item: EU 020 DDGS truck loadout  
Associated Items: SV 008 DDGS Storage Truck Loadout

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 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: Minnesota Energy  
Permit Number: 12900036 - 012

Subject Item: EU 021 DDGS rail loadout

Associated Items: CE 004 Fabric Filter - Low Temperature, i.e., T<180 Degrees F  
SV 004 DDGS Rail Loadout

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)

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-24**

03/31/06

Facility Name: Minnesota Energy

Permit Number: 12900036 - 012

**Subject Item:** EU 026 Temporary (back-up) boiler**Associated Items:** GP 006 NOx Emissions

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****A-25**

03/31/06

Facility Name: Minnesota Energy

Permit Number: 12900036 - 012

**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****A-26**

03/31/06

Facility Name: Minnesota Energy

Permit Number: 12900036 - 012

**Associated Items:** EU 017 DDGS dryer

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****A-27**

03/31/06

Facility Name: Minnesota Energy

Permit Number: 12900036 - 012

**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 A

EU 013 Stripper Rectifier A

EU 014 Molecular Sieve A

EU 028 Fermenter E

EU 029 Fermenter F

EU 030 Beer Stripper B

EU 031 Stripper Rectifier B

EU 032 Molecular Sieve B

EU 033 Molecular Sieve C

What to do	Why to do it
Operating Hours: less than or equal to 500 hours/year once CE009 has been installed and tested. The Permittee may operate CE006 only as a back-up unit for CE009, for a total of up to 500 hours per calendar year.	Minn. R. 7007.0800, subp. 2 and subp. 14
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, 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 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****A-28**

03/31/06

Facility Name: Minnesota Energy

Permit Number: 12900036 - 012

**Subject Item: CE 009 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 A

EU 013 Stripper Rectifier A

EU 014 Molecular Sieve A

EU 028 Fermenter E

EU 029 Fermenter F

EU 030 Beer Stripper B

EU 031 Stripper Rectifier B

EU 032 Molecular Sieve B

EU 033 Molecular Sieve C

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, 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 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****A-29**

03/31/06

Facility Name: Minnesota Energy

Permit Number: 12900036 - 012

**Subject Item:** CE 010 Direct Flame Afterburner**Associated Items:** FS 002 Ethanol loading racks

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.	Minn. R. 7007.0800, subp. 2
OPERATING REQUIREMENTS	hdr
Fuel Usage: The flare shall be used only with the net heating value of the gas being combusted being 300 BTU/scf or greater if the flare is steam assisted or air-assisted; or with the net heating value of the gas being combusted being 200 BTU/scf or greater if the flare is non-assisted.	Minn. R. 7007.0800, subp. 2
The flare should be operated at all times when emissions may be vented to them.	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
Records Requirement: Keep a record of any startup, shutdown, or malfunction in the affected facility or malfunction of the air pollution control equipment.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; and to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200



**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-30**

03/31/06

Facility Name: Minnesota Energy

Permit Number: 12900036 - 012

**Subject Item:** CE 011 Regenerative Thermal Oxidizer**Associated Items:** EU 017 DDGS dryer

GP 006 NOx Emissions

What to do	Why to do it
Volatile Organic Compounds: less than or equal to 95 percent control efficiency	Title I Condition: Limit taken to avoid classification as a major source and modification under 40 CFR Section 52.21; to avoid classification as a major source under 40 CFR Section 70.2; Minn. R. 7007.0800, subp. 2 and 14
Temperature: greater than or equal to 1667 degrees F as a three-hour rolling average at the Combustion Chamber unless a new minimum temperature is required set pursuant to Minn. R. 7017.2025, subp. 3. If a new minimum temperature is required to be set, it will be based on the average temperature recorded during the most recent MPCA approved 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: Limit taken to avoid classification as a major source and modification under 40 CFR Section 52.21; to avoid classification as a major source under 40 CFR Section 70.2; Minn. R. 7007.0800, subp. 2 and 14
The Permittee shall operate and maintain the thermal oxidizer any time that any process equipment controlled by the thermal oxidizer is in operation. The Permittee shall document periods of non-operation of the control equipment.	Title I Condition: Limit taken to avoid classification as a major source and modification under 40 CFR Section 52.21; to avoid classification as a major source under 40 CFR Section 70.2; Minn. R. 7007.0800, subp. 2 and 14
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: Monitoring for Limit taken to avoid classification as a major source and modification under 40 CFR Section 52.21; 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
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 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
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.	Minn. R. 7007.0800, subp. 4, 5, and 14
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
For periods when the thermal oxidizer is operated above the minimum combustion chamber temperature, the Permittee shall use either one of the following when completing calculations as required elsewhere in this permit: a. The overall control efficiency limit specified in this permit for this equipment (95%); or b. The overall control efficiency determined during the most recent MPCA approved performance test. If the tested efficiency is less than the efficiency limit in this permit, the Permittee must use the tested value in all calculations until the efficiency is demonstrated to be above the permit limit through a new test.	Title I Condition: Limit taken to avoid classification as a major source and modification under 40 CFR Section 52.21; to avoid classification as a major source under 40 CFR Section 70.2; Minn. R. 7007.0800, subp. 4 and 5
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

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Minnesota Energy  
Permit Number: 12900036 - 012

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
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**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-32**

03/31/06

Facility Name: Minnesota Energy

Permit Number: 12900036 - 012

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

What to do	Why to do it
<b>A. POLLUTION CONTROL REQUIREMENTS</b>	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>B. MONITORING REQUIREMENTS</b>	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)
For vessels equipped with a liquid-mounted or mechanical shoe primary seal, 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 in accordance with 40 CFR Section 113b(a)(2).	40 CFR Section 60.113b(a)(2); Minn. R. 7011.1520 (C)
For vessels equipped with a double-seal system as specified in 40 CFR Section 60.112b(a)(1)(ii)(B):  (i) 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, in accordance with 40 CFR Section 60.113b(a)(4). In no event shall inspections conducted in accordance with this provision occur at intervals greater than five (5) years; or  (ii) 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 in accordance with 40 CFR Section 60.113b(a)(2).	40 CFR Section 60.113b(a)(3); Minn. R. 7011.1520 (C)
<b>C. RECORDKEEPING REQUIREMENTS</b>	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)
<b>D. REPORTING REQUIREMENTS</b>	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

Facility Name: Minnesota Energy  
Permit Number: 12900036 - 012

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 B: SUBMITTALS

B-1 03/31/06

Facility Name: Minnesota Energy  
Permit Number: 12900036 - 012

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****B-2** 03/31/06

Facility Name: Minnesota Energy

Permit Number: 12900036 - 012

<b>What to send</b>	<b>When to send</b>	<b>Portion of Facility Affected</b>
Notification of the Actual Date of Initial Startup	due 15 days after Initial Startup	EU026
Notification of the Anticipated Date of Initial Startup	due 30 days before Anticipated Date of Initial Startup	EU026
Notification of the Date Construction Began	due 30 days after Start Of Construction	EU026
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****B-3** 03/31/06

Facility Name: Minnesota Energy

Permit Number: 12900036 - 012

What to send	When to send	Portion of Facility Affected
Semiannual Deviations Report	due 30 days after end of each calendar half-year starting 05/12/1998 . 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 starting 05/12/1998 (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

## APPENDIX MATERIAL

Facility Name: Minnesota Energy

Permit Number: 12900036-012

### NOx Emissions Recordkeeping

Record fuel usage daily for each unit subject to the NOx group emissions cap. Calculate the NOx group emissions from the previous week and the NOx Group emissions from the previous 51 weeks (52 week rolling sum). Calculate the total 52-week rolling sum for NOx emissions from each unit according to Equation 1:

$$\sum_1^n NO_{x_n} = \sum_1^n \left[ NG_{x_n} \left( \frac{MMBtu}{week} \right) * EF_x \left( \frac{lb}{MMBtu} \right) * 0.0005 \left( \frac{ton}{lb} \right) \right] \quad \text{Eqn. 1}$$

where:

x = number of emission units

n = number of weeks of interest

$\sum_1^n NO_{x_n}$  = sum of weekly NOx emissions from unit x (tons/52 weeks)

$NG_{x_n}$  = weekly natural gas usage of emission unit x (MMBtu/week)

$EF_x$  = unit specific emission factor determined by stack testing



**TECHNICAL SUPPORT DOCUMENT**  
**For**  
**AIR EMISSION PERMIT NO. 12900036-012**

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 determination to issue the permit.

**1. General Information**

**1.1. Applicant and Stationary Source Location:**

Applicant/Address	Stationary Source/Address (SIC Code: <b>2869</b> )
Minnesota Energy 777 Borden Avenue West Buffalo Lake, MN 55314	777 Borden Avenue West Buffalo Lake Renville County
Contact: <b>Jennifer Forcier, Technical Administrator</b> Phone: <b>(320) 833-5321 x 250</b>	

**1.2. Description of the Permit Action**

The Permittee currently operates a 19,000,000-gallon per year fuel ethanol production plant in Buffalo Lake, Renville County, Minnesota. Emissions from this facility include Particulate Matter (PM) 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 (VOC) 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**

The facility is requesting a 4.5 million gallon per year undenatured ethanol production increase. The increased production is due primarily to efficiencies and operating improvements at the facility. The new permitted capacity of the facility is 23.5 million gallons per year of undenatured ethanol. The facility will remain a minor source under 40 CFR § 52.21 and 70 CFR § 70.2.

#### 1.4. Facility Emissions:

**Table 3. Total Facility Potential to Emit Summary**

	PM tpy	PM <sub>10</sub> tpy	SO <sub>2</sub> tpy	NO <sub>x</sub> tpy	CO tpy	VOC tpy
Total Facility Limited Potential Emissions	94.7	80.1	0.2	54.0	20.6	94.46

**Table 4. 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

The facility was an existing major source under New Source Review regulations while the Consent Decree was in effect. No physical are authorized by this permit. With this permit action, the Permittee is returning to synthetic minor status.

### Part 70 Permit Program

The facility is a non- major source under the Part 70 permit program.

### New Source Performance Standards (NSPS)

There are no additional New Source Performance Standards applicable to the operations at this facility as a result of this modification.

### National Emission Standards for Hazardous Air Pollutants (NESHAP)

The facility has accepted limits on HAP usage such that it is a non-major source under 40 CFR pt. 63. Thus, no NESHAPs apply.

**Table 5. Regulatory Overview of Units Affected by the Modification/Permit Amendment**

<b>EU, GP, or SV</b>	<b>Applicable Regulations</b>	<b>Comments:</b>
FC: Total Facility	Title I limit to avoid 40 CFR § 52.21 and 40 CFR § 70.2  Title I Limit to avoid classification as a major source under 40 CFR § 63.2	Limit set on fuel ethanol production (undenatured, prior to the addition of denaturant)  Limits single and total HAP emissions to less than major source.
GP 006: NOx Emissions	Title I limit to avoid 40 CFR § 52.21 and 40 CFR § 70.2	Limits NOx emissions to an average of 0.04 lb/MMBtu heat input while combusting natural gas or an average of 0.08 lb/MMBtu heat input while combusting propane.
SV 005: Dryer System	Title I Limit to avoid major source classification under 40 CFR § 70.2 and 40 CFR § 52.21  Minn. R. 7017.2025	Limits on PM/PM <sub>10</sub> emissions.  Limits VOC emissions  Centrifuge and syrup feed rates set as a result of performance testing. NOC dated August 17, 2005.
CE 011 Regenerative Thermal Oxidizer	Title I limit to avoid 40 CFR § 52.21 and 40 CFR § 70.2	Limits temperature in the combustion chamber to ensure compliance with the VOC limit on SV 005.

### **3. Technical Information**

#### **3.1 Calculations of Potential to Emit**

Attachment 1 to this TSD contains Form GI-07, which summarizes the PTE of the Facility, and detailed spreadsheets and supporting information prepared by the MPCA and the Permittee.

The Permittee will continue to operate under its existing limits for corn throughput, and DDGS throughput. The only increases in emissions are due to increased truck traffic due to increased ethanol loadout, and increased tank emissions. The Potential to Emit (PTE) from previous permit actions was calculated using emissions factors. The PTE of the entire facility was recalculated using facility specific stack test data for this permit action.

#### **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 6. Periodic Monitoring**

<b>Emission Unit or Group</b>	<b>Requirement (basis)</b>	<b>Additional Monitoring</b>	<b>Discussion</b>
FC: Total Facility	Production $\leq$ 23.5 million gallons per year undenatured ethanol  Single HAP $\leq$ 9.0 tpy, Total HAP $\leq$ 24.0 tpy	Recordkeeping: weekly recordkeeping of ethanol production monthly calculations of ethanol production for the previous month, and the previous 12-month period.  Recordkeeping: Daily records of HAP production, Monthly calculations of emissions	Record the amount of HAP emitted and calculate the amount of HAP (single and total) emitted each month for the previous 12 months.
GP 004: NO <sub>x</sub> Emissions	Group NO <sub>x</sub> limit	Daily recordkeeping of fuel combusted (natural gas and propane).	
SV 005: Dryer System	PM/PM <sub>10</sub> and VOC limits		Monitoring of combustion chamber temperature of CE 010 ensures compliance with PM/PM <sub>10</sub> limits and VOC limits.

### **3.3 Comments Received**

Public Notice Period: March 2, 2006 - March 31, 2006

Comments were received from EPA during the public notice period. The comments were to correct typographical errors in a citation, and to correct an application date in the cover page to the permit. EPA also pointed out that the VOC emissions limit for the process scrubber stack was calculated incorrectly. The emission limit from the process scrubber stack was calculated using site-specific stack test data. The Permittee used the VOC as ethanol value to calculate the emission limit. EPA pointed out that the VOC as carbon value should have been used after the Midwest Scaling Protocol was applied to the value. There is a limit at the Process Scrubber stack for the number of hours the process scrubber emissions are allowed to be discharged directly to atmosphere. This number was decreased to account for the greater VOC hourly emissions rate. Additional monitoring and recordkeeping requirements were also added to the permit.

### **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. 12900036-012, and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team: Elisabeth Freymiller (permit writer/engineer)  
Sarah Kilgriff (enforcement)  
Curt Stock (stack testing)  
Dave Beil (peer reviewer)

Attachments: 1. PTE Summary Calculation Spreadsheets  
2. Facility Description and CD-01 Forms  
3. EPA Comments and MPCA response