

AIR EMISSION PERMIT NO. 10901021- 001

IS ISSUED TO

MinnErgy LLC

MINNERGY LLC

South East corner of Intersection of 19th Street and 110th Avenue
Eyota, Olmsted County, MN 55934

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	08/14/2007

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 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 Part 70/Limits to Avoid New Source Review

Issue Date: December 10, 2008

Expiration: Nonexpiring
All Title I Conditions do not expire.

Don Smith, P.E., Manager
Air Quality Permits Section
Industrial Division

for Paul Eger
Deputy 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:

MinnErgy, LLC proposes to construct a fuel ethanol plant permitted to produce 52,250,000 gallons per year of 200 proof (undenatured) ethanol. Corn will be the primary feedstock. Byproducts include syrup, wet distillers grain, and dried distillers grain.

Corn is received at a receiving pit and conveyed to storage until needed. The emissions from corn receiving, handling, and storage consist of particulate matter (PM and PM₁₀) and are controlled by a baghouse (CE 001, SV 001). The corn is cleaned and then milled in a hammermill. Cleaning and milling also generate PM and PM₁₀, which are controlled by a baghouse (CE 002, SV 002).

Milled corn then enters the fermentation and distillation process, where enzymes and yeast are introduced, and the mixture is cooked, fermented, and distilled. Volatile organic compound (VOC) emissions are produced, which are controlled by a scrubber (CE 003, SV 003). Fugitive VOC emissions resulting from leaks in fittings, pumps, valves, etc. are exhausted out the ventilation system of the fermentation/distillation building.

Heat is provided to the fermentation and distillation operations via steam from a natural gas/propane fired thermal oxidizer with a heat recovery steam generation unit (SV 004).

Corn materials left over from the fermentation/distillation are dried to form distillers dried grains with solubles (DDGS), which is sold and used as livestock feed. The dryer combusts natural gas and/or propane for heat. The drying process generates PM, PM₁₀, VOC, Carbon Monoxide (CO) and Nitrogen Oxides emissions, (CE 006, SV 009). DDGS is transported to a storage building by a conveyor. It enters a cooling or “separating” cyclone, which separates air from DDGS and vents the air into the stack.

PM and PM₁₀ are generated by the handling and loadout of DDGS. A baghouse collects and controls emissions from the loadout pit, elevator leg, and loadout spout (CE 005, SV 006). Fugitive PM and PM₁₀ emissions from dropping the DDGS into the building from the conveyor are exhausted through the building ventilation.

One tank (the day tank) stores 200 proof ethanol, prior to addition of the denaturant (gasoline). One tank stores denaturant, prior to being added to the 200 proof ethanol. One tank stores denatured ethanol prior to sale/shipment. The fourth tank is used as needed for storage of off-spec ethanol.

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

12/10/08

Facility Name: MinnErgy LLC

Permit Number: 10901021 - 001

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
OPERATIONAL REQUIREMENTS	hdr
Production: less than or equal to 52250000 gallons/year using 12-month Rolling Sum of undenatured 200 proof ethanol	Title I Condition: to avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Recordkeeping: Record the amount of ethanol produced each day. By the 15th day of each month, record the gallons of ethanol produced during the previous month, and the gallons of ethanol produced during the previous 12 months (12-month rolling sum).	Title I Condition: to avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
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
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)
Operation Changes: In any shutdown, breakdown, or deviation the Permittee shall immediately take all practical steps to modify operations to reduce the emission of any regulated air pollutant. The Commissioner may require feasible and practical modifications in the operation to reduce emissions of air pollutants. No emissions units that have an unreasonable shutdown or breakdown frequency of process or control equipment shall be permitted to operate.	Minn. R. 7019.1000, subp. 4
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
Noise: The Permittee shall comply with the noise standards set forth in Minn. R. 7030.0010 to 7030.0080 at all times during the operation of any emission units. This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.	Minn. R. 7030.0010 - 7030.0080
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)
The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.	Minn. R. 7007.0800, subp. 16
PARAMETERS USED IN AIR TOXICS MODELING	hdr
Parameters Used in Modeling: The parameters used in the modeling performed for an Environmental Assessment Worksheet under Minn. R. ch. 4410 for this facility are listed in the RASS spreadsheet for the Air Emissions Risk Analysis (AERA) for this permit. If the Permittee intends to change any of these parameters, the Permittee must submit the revised parameters to the Commissioner and receive written approval before making any changes. The revised parameter information submittal must include, but is not limited to: the locations, heights and diameters of the stacks; locations and dimensions of nearby buildings; velocity and temperatures of the gases emitted; and the emission rates. The plume dispersion characteristics due to the parameter revisions must equal or exceed the dispersion characteristics modeled for this permit, and the Permittee shall demonstrate this in the proposal.	Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0800, subps. 1, 2 & 4
Parameters Used in Modeling (continued): If the information does not demonstrate equivalent or better dispersion characteristics, or if a conclusion cannot readily be made about the dispersion, the Permittee must remodel.	CONTINUED: Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0800, subps. 1, 2 & 4

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

12/10/08

Facility Name: MinnErgy LLC

Permit Number: 10901021 - 001

Parameters Used in Modeling (continued): Pollutant Emission Rates: If the Permittee proposes to emit any pollutant in addition to those listed in the RASS spreadsheet for this permit, or proposes to increase the emission rate of any pollutant, the Permittee shall first use the MinnErgy Air Emissions Risk Analysis (AERA) report, as a template for recalculating the risk due to the change in emissions. The Permittee shall submit a report to the MPCA of the proposed change and demonstrate that the recalculated risk for all pollutants emitted from the facility does not exceed the acceptable risk criteria used in the MinnErgy AERA report. The Permittee must receive written approval from the MPCA before making any changes.	CONTINUED: Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0800, subps. 1, 2 & 4
For changes that do not involve an increase in an emission rate and that do not require a permit amendment, the proposal must be submitted as soon as practicable, but no less than 60 days before making the change to any parameter.	CONTINUED: Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0800, subps. 1, 2 & 4
Parameters Used in Modeling (continued): For changes involving increases in emission rates and that require a minor permit amendment, the proposal must be submitted as soon as practicable, but no less than 60 days before making the change to any parameter. For changes involving increases in emission rates and that require a permit amendment other than a minor amendment, the proposal must be submitted prior to or with the permit amendment application. This is a state only requirement and is not enforceable by the EPA Administrator and citizens under the Clean Air Act.	CONTINUED: Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0800, subps. 1, 2 & 4
PARAMETERS USED IN CRITERIA POLLUTANT MODELING	hdr
Parameters Used in Modeling: The stack heights, emission rates, and other parameters used in the modeling are listed in Appendix II of this permit. The Permittee must submit to the Commissioner for approval any revisions of these parameters and must wait for a written approval before making such changes. The information submitted must include, at a minimum, the locations, heights and diameters of the stacks, locations and dimensions of nearby buildings, the velocity and temperatures of the gases emitted, and the emission rates. The plume dispersion characteristics due to the revisions of the information must be equivalent to or better than the dispersion characteristics modeled. The Permittee shall demonstrate this equivalency in the proposal. If the information does not demonstrate equivalent or better dispersion characteristics, or if a conclusion cannot readily be made about the dispersion, the Permittee must remodel.	Title I Condition: 40 CFR Section 52.21(k); Minn. R. 7007.3000
For changes that do not involve an increase in an emission rate and that do not require a permit amendment, this proposal must be submitted as soon as practicable, but no less than 60 days before beginning actual construction of the stack or associated emission unit. For changes involving increases in emission rates and that require a minor permit amendment, the proposal must be submitted as soon as practicable, but no less than 60 days before beginning actual construction of the stack or associated emission unit. For changes involving increases in emission rates and that require a permit amendment other than a minor amendment, the proposal must be submitted with the permit application.	Title I Condition: 40 CFR Section 52.21(k); Minn. R. 7007.3000
MODELING RELATED CONDITIONS	hdr
Install fencing as described in modeling submittals with the permit application prior to startup.	Minn. R. ch. 7009
PERFORMANCE TESTING	hdr
Performance Testing: Conduct all performance tests in accordance with Minn. R. ch. 7017 unless otherwise noted in Tables A and/or B.	Minn. R. ch. 7017
Performance Test Notifications and Submittals: Performance Tests are due as outlined in Tables A and B of the permit. See Table B for additional testing requirements. 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 The Notification, Test Plan, and Test Report may be submitted in alternative format as allowed by Minn. R. 7017.2018.	Minn. Rs. 7017.2030, subp. 1-4, 7017.2018 and Minn. R. 7017.2035, subp. 1-2

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

12/10/08

Facility Name: MinnErgy LLC

Permit Number: 10901021 - 001

Limits set as a result of a performance test (conducted before or after permit issuance) apply until superseded as stated in the MPCA's Notice of Compliance letter granting preliminary approval. Preliminary approval is based on formal review of a subsequent performance test on the same unit as specified by Minn. R. 7017.2025, subp. 3. The limit is final upon issuance of a permit amendment incorporating the change.	Minn. R. 7017.2025, subp. 3
MONITORING REQUIREMENTS	hdr
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 and/or B, 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)
RECORDKEEPING	hdr
Recordkeeping: 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 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)
Recordkeeping: Maintain records describing any insignificant modifications (as required by Minn. R. 7007.1250, subp. 3) or changes contravening permit terms (as required by Minn. R. 7007.1350, subp. 2), including records of the emissions resulting from those changes.	Minn. R. 7007.0800, subp. 5(B)
When the Permittee determines that no permit amendment or notification is required prior to making a change, the Permittee must retain records of all calculations required under Minn. R. 7007.1200. For expiring permits, these records shall be kept for a period of five years from the date the change was made or until permit reissuance, whichever is longer. For nonexpiring permits, these records shall be kept for a period of five years from the date that the change was made. The records shall be kept at the stationary source for the current calendar year of operation and may be kept at the stationary source or office of the stationary source for all other years. The records may be maintained in either electronic or paper format.	Minn. R. 7007.1200, subp. 4
REPORTING/SUBMITTALS	hdr
Diesel Idling Reduction Plan: due 180 days after permit issuance, a diesel idling reduction plan shall be submitted. The plan shall be implemented upon submittal to the Agency, and shall be modified if requested based on review by the Agency.	Minn. R. ch. 7009; Minn. R. 7007.0800, subp. 2
Shutdown Notifications: For air pollution control equipment, the requirement applies only if the associated emission unit(s) cannot be shutdown at the same time as the air pollution controls. The associated emission unit(s) must be shutdown as soon as possible and not restarted...	Minn. R. 7019.1000, subp. 3
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 and B 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.	
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 and B of Minn. R. 7019.1000, subp. 2.	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.	

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-4**

12/10/08

Facility Name: MinnErgy LLC

Permit Number: 10901021 - 001

Notification of Deviations Endangering Human Health or the Environment: As soon as possible after discovery, notify the Commissioner or the state duty officer, either orally or by facsimile, 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
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
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)
Emission Inventory Report: due on or before April 1 of each calendar year following permit issuance. The Permittee shall submit this on a form approved by the Commissioner.	Minn. R. 7019.3000 through Minn. R. 7019.3100
Emission Fees: due 60 days after receipt of an MPCA bill.	Minn. R. 7002.0005 through Minn. R. 7002.0095
The Permittee must submit a Risk Management Plan (RMP) under 40 CFR pt. 68. Each owner or operator of a stationary source, at which a regulated substance is present above a threshold quantity in a process, shall design and implement an accidental release prevention program. An initial RMP must be submitted no later than the latest of the following dates: 1) June 21, 1999; 2) Three years after the date on which a regulated substance is first listed under 40 CFR Section 68.130; or 3) The date on which a regulated substance is first present above a threshold quantity in a process. A full update and resubmission of the RMP is required at least once every five years. The five-year anniversary date is reset whenever your facility fully updates and resubmits their RMP. Submit RMPs to the Risk Management Plan Reporting Center, P.O. Box 1515, Lanham-Seabrook, Maryland 20703-1515. RMP information may be obtained at http://www.epa.gov/swercepp or by calling 1-800-424-9346.	40 CFR pt. 68

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-5**

12/10/08

Facility Name: MinnErgy LLC

Permit Number: 10901021 - 001

Subject Item: GP 001 Tanks Subject to Subpart Kb**Associated Items:** TK 001 190 Proof Ethanol, 165000 gallons

TK 002 200 Proof Ethanol, 165000 gallons

TK 003 Denatured Ethanol, 750000 gallons

TK 004 Denatured Ethanol, 750000 gallons

TK 005 Denaturant, 165000 gallons

What to do	Why to do it
POLLUTION CONTROL REQUIREMENTS	hdr
The storage vessel shall be equipped with a fixed roof in combination with an internal floating roof meeting the requirements of 40 CFR Section 60.112b(a)(1).	40 CFR Section 60.112b(a); Minn. R. 7011.1520(C)
The storage vessel shall be equipped with the following closure devices between the wall of the storage vessel and the edge of the internal floating roof consisting of 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)
INSPECTIONS	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 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 10 years.	40 CFR Section 60.113b(a)(3)(i); Minn. R. 7011.1520(C)
NOTIFICATIONS	hdr
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 Commissioner in writing at least 30 days prior to the filling or refilling of the storage vessel, to afford the Commissioner 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 the refilling the tank, the owner or operator shall notify the Commissioner at least 7 days prior to the refilling of 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 Commissioner at least 7 days prior to refilling.	40 CFR Section 60.113b(a)(5); Minn. R. 7011.1520(C)
Notification: Furnish the Commissioner with a report describing the internal floating roof and certifying that it meets the specifications of 40 CFR Section 60.112b(a)(1) and 40 CFR Section 60.113b(a)(1). The report shall be an attachment to the notification of actual date of initial startup required by 40 CFR Section 60.7(a)(3).	40 CFR Section 60.115b(a)(1); Minn. R. 7011.1520(C)
RECORDKEEPING	hdr
Recordkeeping: Maintain records showing the volatile organic liquid (VOL) stored, the period of storage, and the maximum true vapor pressure of the VOL during the respective storage period, calculated as described in 40 CFR Section 116b(e).	40 CFR Section 60.116b(c); Minn. R. 7011.1520(C)
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)
REPORTS	hdr

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: MinnErgy LLC
Permit Number: 10901021 - 001

After each inspection required under 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 Commissioner within 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)
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TABLE A: LIMITS AND OTHER REQUIREMENTS**A-7**

12/10/08

Facility Name: MinnErgy LLC
 Permit Number: 10901021 - 001

Subject Item: **SV 001 Grain Handling Baghouse (CE001)**

Associated Items: EU 001 Grain Truck Dump Pit 1
 EU 002 Grain Truck Dump Pit 2
 EU 003 Grain Rail Dump Pit
 EU 004 Grain Elevator
 EU 005 Conveyor
 EU 006 Corn Storage Silo 1
 EU 007 Corn Storage Silo 2
 EU 008 Corn Storage Day Bin 1
 EU 009 Corn Storage Day Bin 2
 EU 010 Scalper
 EU 051 Corn Storage Silo 3 (Phase II)

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 1.67 lbs/hour	Title I Condition: to avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Particulate Matter < 10 micron: less than or equal to 1.67 lbs/hour	Title I Condition: to avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Opacity: less than or equal to 10 percent opacity	Minn. R. 7011.1005, subp. 3(D)
PERFORMANCE TESTS	hdr
Performance Test: due 90 days after Initial Startup of EU001 and EU002, for PM emissions.	Minn. R. 7017.2020, subp. 1
Performance Test: due 90 days after Initial Startup of EU001 and EU002, for PM10 emissions.	Minn. R. 7017.2020, subp. 1

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-8**

12/10/08

Facility Name: MinnErgy LLC
Permit Number: 10901021 - 001

Subject Item: **SV 002 Hammermilling Baghouse (CE002)**

Associated Items: EU 011 Hammermill 1

EU 012 Hammermill 2

EU 013 Grinder Bucket Elevator

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 1.20 lbs/hour	Title I Condition: to avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Particulate Matter < 10 micron: less than or equal to 1.20 lbs/hour	Title I Condition: to avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Opacity: less than or equal to 10 percent opacity	Minn. R. 7011.1005, subp. 3(D)
PERFORMANCE TESTS	hdr
Performance Test: due 90 days after Initial Startup of EU011 and EU012, for PM emissions.	Minn. R. 7017.2020, subp. 1
Performance Test: due 90 days after Initial Startup of EU011 and EU012, for PM10 emissions.	Minn. R. 7017.2020, subp. 1

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

12/10/08

Facility Name: MinnErgy LLC
Permit Number: 10901021 - 001

Subject Item: SV 003 Fermentation Scrubber Stack (CE003)

Associated Items: EU 014 Yeast Tank
EU 015 Fermenter 1
EU 016 Fermenter 2
EU 017 Fermenter 3
EU 018 Fermenter 4
EU 019 Beerwell

What to do	Why to do it
EMISSION LIMITS	hdr
Volatile Organic Compounds: less than or equal to 9.40 lbs/hour as total mass of VOC	Title I Condition: to avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
PERFORMANCE TESTS	hdr
Performance Test: due 90 days after Initial Startup of EU014 through EU019, for VOC emissions.	Minn. R. 7017.2020, subp. 1
Performance Test: due 90 days after Initial Startup of EU014 through EU019, for acetaldehyde emissions.	Minn. R. 7017.2020, subp. 1

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-10**

12/10/08

Facility Name: MinnErgy LLC

Permit Number: 10901021 - 001

Subject Item: SV 004 TO/HRSG Stack (CE004, CE005, CE006)

Associated Items:

- EU 020 Slurry Mixer
- EU 021 Slurry Tank
- EU 022 Cook Tube
- EU 023 Flash Vessel
- EU 024 Liquefaction Tank 1
- EU 025 Liquefaction Tank 2
- EU 026 Process Condensate Tank
- EU 027 Beer Column
- EU 028 Side Stripper
- EU 029 Rectifier Column
- EU 030 190 Proof Condenser
- EU 031 Molecular Sieve
- EU 032 200 Proof Condenser
- EU 033 Centrifuge 1
- EU 034 Centrifuge 2
- EU 035 Centrifuge 3
- EU 036 Centrifuge 4
- EU 037 Evaporators
- EU 038 Whole Stillage Tank
- EU 039 Thin Stillage Tank
- EU 040 Syrup Tank
- EU 041 DDGS Dryer 1
- EU 042 DDGS Dryer 2
- EU 043 TO/HRSG, 135 MMBtu/hr

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 6.55 lbs/hour	Title I Condition: to avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Sulfur Dioxide: less than or equal to 11.32 lbs/hour	Title I Condition: to avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Nitrogen Oxides: less than or equal to 21.15 lbs/hour	Title I Condition: to avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Carbon Monoxide: less than or equal to 20.85 lbs/hour	Title I Condition: to avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Volatile Organic Compounds: less than or equal to 5.32 lbs/hour as total mass of VOC	Title I Condition: to avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
PERFORMANCE TESTS	hdr
Performance Test: due 90 days after Initial Startup of CE004, for PM emissions.	Minn. R. 7017.2020, subp. 1

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-11**

12/10/08

Facility Name: MinnErgy LLC

Permit Number: 10901021 - 001

Performance Test: due 90 days after Initial Startup of CE004, for sulfur dioxide emissions.	Minn. R. 7017.2020, subp. 1
Performance Test: due 90 days after Initial Startup of CE004, for VOC emissions	Minn. R. 7017.2020, subp. 1
Performance Test: due 90 days after Initial Startup of CE004, for CO emissions	Minn. R. 7017.2020, subp. 1
Performance Test: due 90 days after Initial Startup of EU014 through EU019, for acetaldehyde emissions.	Minn. R. 7017.2020, subp. 1
NSPS SUBPART Db REQUIREMENTS FOR EU043	hdr
CEMS Installation: Install NOx CEMS.	40 CFR Section 60.48b(b); Minn. R. 7017.1010, subp. 1
<p>The CEMS for nitrogen oxides shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.</p> <p>The 1-hour average NOX emission rates measured by the continuous NOX monitor shall be expressed in lb/MMBtu heat input and shall be used to calculate the average emission rates. The 1-hour averages shall be calculated using at least 2 data points for each 1-hour average.</p> <p>The procedures under 40 CFR Section 60.13 shall be followed for installation, evaluation, and operation of the continuous monitoring systems.</p> <p>The span value for a continuous monitoring system for measuring nitrogen oxides shall be 1000 ppm.</p>	40 CFR Section 60.48b(c), (d), and (e) Minn. R. 7011.0565
When NOx emission data are not obtained because of CEMS breakdowns, repairs, calibration checks and zero and span adjustments, emission data will be obtained by using standby monitoring systems, Method 7 of appendix A of this part, Method 7A of appendix A of this part, or other approved reference methods to provide emission data for a minimum of 75 percent of the operating hours in each steam generating unit operating day, in at least 22 out of 30 successive steam generating unit operating days.	40 CFR Section 60.48b(f) Minn. R. 7011.0565
The Permittee shall submit to the Administrator the performance test data from the initial performance test and the performance evaluation of the CEMS. The Permittee shall submit to the Administrator the maximum heat input capacity data from the demonstration of the maximum heat input capacity of the affected facility.	40 CFR Section 60.49b(b) Minn. R. 7011.0565
The Permittee shall record and maintain records of the amounts of each fuel combusted during each day and calculate the annual capacity factor individually for natural gas and propane for the reporting period. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month.	40 CFR Section 60.49b(d) Minn. R. 7011.0565
<p>The Permittee shall maintain records of the following information for each steam generating unit operating day:</p> <p>(1) Calendar date;</p> <p>(2) The average hourly NOX emission rates (expressed as NO2) (ng/J or lb/MMBtu heat input) measured or predicted;</p> <p>(3) The 30-day average NOX emission rates (ng/J or lb/MMBtu heat input) calculated at the end of each steam generating unit operating day from the measured or predicted hourly nitrogen oxide emission rates for the preceding 30 steam generating unit operating days;</p> <p>(4) Identification of the steam generating unit operating days when the calculated 30-day average NOX emission rates are in excess of the NOX emissions standards under Section 60.44b, with the reasons for such excess emissions as well as a description of corrective actions taken;</p>	40 CFR Section 60.49b(g) Minn. R. 7011.0565
<p>(5) Identification of the steam generating unit operating days for which pollutant data have not been obtained, including reasons for not obtaining sufficient data and a description of corrective actions taken;</p> <p>(6) Identification of the times when emission data have been excluded from the calculation of average emission rates and the reasons for excluding data;</p> <p>(7) Identification of <input type="checkbox"/> F <input type="checkbox"/> factor used for calculations, method of determination, and type of fuel combusted;</p> <p>(8) Identification of the times when the pollutant concentration exceeded full span of the CEMS;</p> <p>(9) Description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specification 2 or 3; and</p> <p>(10) Results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1 of this part.</p>	40 CFR Section 60.49b(g) Minn. R. 7011.0565 continued

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

12/10/08

Facility Name: MinnErgy LLC

Permit Number: 10901021 - 001

Subject Item: SV 005 DDGS Cooling Cyclone Baghouse (CE007)**Associated Items:** EU 044 DDGS Cooling Cyclone

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 2.14 lbs/hour	Title I Condition: to avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Particulate Matter < 10 micron: less than or equal to 2.14 lbs/hour	Title I Condition: to avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Opacity: less than or equal to 10 percent opacity	Minn. R. 7011.1005, subp. 3(D)
Volatile Organic Compounds: less than or equal to 2.51 lbs/hour as total mass of VOC	Title I Condition: to avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
PERFORMANCE TESTS	hdr
Performance Test: due 90 days after Initial Startup of EU044, for PM emissions.	Minn. R. 7017.2020, subp. 1
Performance Test: due 90 days after Initial Startup of EU044, for PM10 emissions.	Minn. R. 7017.2020, subp. 1
Performance Test: due 90 days after Initial Startup of EU044, for VOC emissions.	Minn. R. 7017.2020, subp. 1

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

12/10/08

Facility Name: MinnErgy LLC

Permit Number: 10901021 - 001

Subject Item: SV 006 DDGS Handling Baghouse (CE008)**Associated Items:** EU 045 DDGS Truck Loadout

EU 046 DDGS Rail Loadout

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.16 lbs/hour	Title I Condition: to avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Particulate Matter < 10 micron: less than or equal to 0.16 lbs/hour	Title I Condition: to avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Opacity: less than or equal to 10 percent opacity	Minn. R. 7011.1005, subp. 3(D)
PERFORMANCE TESTS	hdr
Performance Test: due 90 days after Initial Startup of EU045 and EU046, for PM emissions.	Minn. R. 7017.2020, subp. 1
Performance Test: due 90 days after Initial Startup of EU045 and EU046, for PM10 emissions.	Minn. R. 7017.2020, subp. 1

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-14**

12/10/08

Facility Name: MinnErgy LLC

Permit Number: 10901021 - 001

Subject Item: SV 007 Ethanol Loadout Flare (truck only, CE009)**Associated Items:** EU 047 Ethanol Loadout (Truck)

EU 048 Ethanol Loadout Flare

What to do	Why to do it
EMISSION LIMITS	hdr
Flares must be designed for and operated with no visible emissions except for a period not to exceed a total of 5 minutes during any 2 consecutive hours.	Minn. R. 7007.0800, subp. 14 Minn. R. 7007.0800, subp. 16(J)
OPERATING REQUIREMENTS	hdr
Flares shall be operated at all times when emissions may be vented to them.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 14 Minn. R. 7007.0800, subp. 16(J)
Flares shall be operated with a flame present at all times.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 14 Minn. R. 7007.0800, subp. 16(J)
Flame presence shall be monitored using a thermocouple or any other equivalent device.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 14 Minn. R. 7007.0800, subp. 16(J)
Records Requirement: Keep a record of any startup, shutdown, or malfunction in the affected facility or malfunction of the air pollution control equipment. NSPS Subpart A	Minn. R. 7007.0800, subp. 14 Minn. R. 7007.0800, subp. 16(J)
Recordkeeping: Maintain a file of all measurements, CMS performance evaluations, calibration checks, adjustments and maintenance, and all other information required by this part in permanent form, suitable for inspection for at least five years following the date of such measurements, maintenance, and records.	Minn. R. 7007.0800, subp. 14 Minn. R. 7007.0800, subp. 16(J)
Operation Requirement: At all times, including periods of startup, shutdown, and malfunction, owners shall maintain and operate any affected facility in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.	Minn. R. 7007.0800, subp. 14 Minn. R. 7007.0800, subp. 16(J)
Construction and Operation Requirement: Steam assisted flares shall be designed and operated with an exit velocity of less than 60 ft/sec.	Minn. R. 7007.0800, subp. 14 Minn. R. 7007.0800, subp. 16(J)
Construction and Operation Requirement: Steam assisted flares designed and operated with an exit velocity equal to or greater than 60 ft/sec but less than 200 ft/sec are allowed if the heating value of the combustion gas is greater than 1,000 Btu/scf.	Minn. R. 7007.0800, subp. 14 Minn. R. 7007.0800, subp. 16(J)
Construction and Operation Requirement: Steam assisted flares designed and operated with an exit velocity less than Vmax (as determined by the method specified in 40 CFR Section 60.18(f)(5)) and less than 400 ft/sec are allowed.	Minn. R. 7007.0800, subp. 14 Minn. R. 7007.0800, subp. 16(J)
Construction Requirement: Flares used to comply with this section shall be steam assisted, air assisted, or nonassisted.	Minn. R. 7007.0800, subp. 14 Minn. R. 7007.0800, subp. 16(J)
Operation Requirement: Flares shall be monitored to ensure that they are operated and maintained in conformance with their design.	Minn. R. 7007.0800, subp. 14 Minn. R. 7007.0800, subp. 16(J)

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-15**

12/10/08

Facility Name: MinnErgy LLC

Permit Number: 10901021 - 001

Subject Item: SV 008 Fire Pump Stack**Associated Items:** EU 049 Emergency Fire Pump, 290 hp

What to do	Why to do it
Opacity: less than or equal to 20 percent opacity once operating temperatures have been attained.	Minn. R. 7011.2300, subp. 1
NSPS SUBPART IIII REQUIREMENTS	hdr
Owners and operators of fire pump engines with a displacement of less than 30 liters per cylinder must comply with the emission standards in Table 4 to Subpart IIII, for all pollutants.	40 CFR Section 60.4205(c)
Effective October 1, 2007, diesel fuel must meet 40 CFR Section 80.510(a); effective October 1, 2010, diesel fuel must meet 40 CFR Section 80.510(b) for nonroad diesel fuel	40 CFR Section 60.4207(a) 40 CFR Section 60.4207(b)
The engine must be equipped with a nonresettable hours-of-operation meter.	40 CFR Section 60.4209(a)
The Permittee shall keep the records or perform the tests specified in one of the methods specified in 40 CFR Section 60.4211.	40 CFR Section 60.4211(b)
Annual operation for maintenance checks and readiness testing is limited to 100 hours per year.	40 CFR Section 60.4211(e)
RECORDKEEPING	hdr
Hours of Operation: The Permittee shall maintain documentation on site that the unit is an emergency generator by design that qualifies under the U.S. EPA memorandum entitled "Calculating Potential to Emit (PTE) for Emergency Generators" dated September 6, 1995, limiting operation to 500 hours per year.	Minn. R. 7007.0800, subp. 4 and 5
Fuel Supplier Certification: The Permittee shall obtain and maintain a fuel supplier certification for each shipment of fuel oil, certifying that the fuel oil meets the requirements of 40 CFR 80.510(a) or (b).	Minn. R. 7007.0800, subps. 4 & 5

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-16**

12/10/08

Facility Name: MinnErgy LLC

Permit Number: 10901021 - 001

Subject Item: EU 041 DDGS Dryer 1**Associated Items:** CE 004 Thermal Oxidizer

CE 005 Multiple Cyclone w/o Fly Ash Reinjection - Most Multiclones

SV 004 TO/HRSG Stack (CE004, CE005, CE006)

What to do	Why to do it
Vent all emissions to the cyclone (CE005) and thermal oxidizer (CE004).	Title I Condition: to avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
When a shutdown or breakdown of CE004 occurs, the Permittee shall stop wetcake feed to the dryer. The Permittee may continue operation of the dryer only as long as necessary to empty material already in the dryer.	Title I Condition: to avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Operating limits based on performance tests: Limits set following a performance test for dryers may include a production limit (wetcake feedrate or beer feedrate as a surrogate), syrup feedrate, and dryer temperature.	Minn. R. 7017.2025, subp. 3

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

12/10/08

Facility Name: MinnErgy LLC

Permit Number: 10901021 - 001

Subject Item: EU 042 DDGS Dryer 2**Associated Items:** CE 004 Thermal Oxidizer

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

SV 004 TO/HRSG Stack (CE004, CE005, CE006)

What to do	Why to do it
Vent all emissions to the cyclone (CE006) and thermal oxidizer (CE004).	Title I Condition: to avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
When a shutdown or breakdown of CE004 occurs, the Permittee shall stop wetcake feed to the dryer. The Permittee may continue operation of the dryer only as long as necessary to empty material already in the dryer.	Title I Condition: to avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Operating limits based on performance tests: Limits set following a performance test for dryers may include a production limit (wetcake feedrate or beer feedrate as a surrogate), syrup feedrate, and dryer temperature.	Minn. R. 7017.2025, subp. 3

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-18**

12/10/08

Facility Name: MinnErgy LLC

Permit Number: 10901021 - 001

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

EU 002 Grain Truck Dump Pit 2

EU 003 Grain Rail Dump Pit

EU 004 Grain Elevator

EU 005 Conveyor

EU 006 Corn Storage Silo 1

EU 007 Corn Storage Silo 2

EU 008 Corn Storage Day Bin 1

EU 009 Corn Storage Day Bin 2

EU 010 Scalper

What to do	Why to do it
The Permittee shall operate and maintain the fabric filter at all times that any emission unit controlled by the fabric filter is in operation. The Permittee shall document periods of non-operation of the control equipment.	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000; To avoid classification as major source under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 2 and 14
The Permittee shall operate and maintain the control equipment such that it achieves a collection efficiency for Total Particulate Matter: greater than or equal to 99 percent collection efficiency	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000; To avoid classification as major source under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 2 and 14
The Permittee shall operate and maintain the control equipment such that it achieves a collection efficiency for Particulate Matter < 10 micron: greater than or equal to 99 percent collection efficiency	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000; To avoid classification as major source under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 2 and 14
Visible Emissions: The Permittee shall check each fabric filter stack for any visible emissions once each day of operation during daylight hours. During inclement weather, the Permittee shall read and record the pressure drop across the fabric filter, once each day of operation.	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000; To avoid classification as a major source under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 4 and 5
Determination of normal pressure drop range: During the initial performance test, the Permittee shall observe and record the pressure drop across the baghouse. Normal pressure drop range is defined as the observed pressure drop (in inches of water column) plus or minus 1 inch water column. The Permittee shall record the normal range in the O and M Plan.	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000; To avoid classification as a major source under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 4 and 5
Recordkeeping of Visible Emissions and Pressure Drop. The Permittee shall record the time and date of each visible emission inspection and pressure drop reading, and whether or not any visible emissions were observed, and whether or not the observed pressure drop was within the normal range.	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000; To avoid classification as a major source under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 4 and 5
Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored fabric filter is in operation.	Minn. R. 7007.0800, subp. 4
Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - visible emissions are observed; - the recorded pressure drop is outside the required operating range; or - the fabric filter or any of its components are found during the inspections to need repair. Corrective actions shall return the pressure drop to within the permitted range, eliminate visible emissions, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter.	Minn. R. 7007.0800, subp. 4, 5, and 14
Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.	Minn. R. 7007.0800, subp. 4, 5 and 14

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: MinnErgy LLC
Permit Number: 10901021 - 001

The Permittee shall operate and maintain the fabric filter in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.	Minn. R. 7007.0800, subp. 14
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TABLE A: LIMITS AND OTHER REQUIREMENTS**A-20**

12/10/08

Facility Name: MinnErgy LLC

Permit Number: 10901021 - 001

Subject Item: CE 002 Fabric Filter - Low Temperature, i.e., T<180 Degrees F**Associated Items:** EU 011 Hammermill 1

EU 012 Hammermill 2

EU 013 Grinder Bucket Elevator

What to do	Why to do it
The Permittee shall operate and maintain the fabric filter at all times that any emission unit controlled by the fabric filter is in operation. The Permittee shall document periods of non-operation of the control equipment.	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000; To avoid classification as major source under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 2 and 14
The Permittee shall operate and maintain the control equipment such that it achieves a collection efficiency for Total Particulate Matter: greater than or equal to 99 percent collection efficiency	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000; To avoid classification as major source under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 2 and 14
The Permittee shall operate and maintain the control equipment such that it achieves a collection efficiency for Particulate Matter < 10 micron: greater than or equal to 99 percent collection efficiency	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000; To avoid classification as major source under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 2 and 14
Visible Emissions: The Permittee shall check each fabric filter stack for any visible emissions once each day of operation during daylight hours. During inclement weather, the Permittee shall read and record the pressure drop across the fabric filter, once each day of operation.	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000; To avoid classification as a major source under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 4 and 5
Determination of normal pressure drop range: During the initial performance test, the Permittee shall observe and record the pressure drop across the baghouse. Normal pressure drop range is defined as the observed pressure drop (in inches of water column) plus or minus 1 inch water column. The Permittee shall record the normal range in the O and M Plan.	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000; To avoid classification as a major source under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 4 and 5
Recordkeeping of Visible Emissions and Pressure Drop. The Permittee shall record the time and date of each visible emission inspection and pressure drop reading, and whether or not any visible emissions were observed, and whether or not the observed pressure drop was within the normal range.	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000; To avoid classification as a major source under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 4 and 5
Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored fabric filter is in operation.	Minn. R. 7007.0800, subp. 4
Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - visible emissions are observed; - the recorded pressure drop is outside the required operating range; or - the fabric filter or any of its components are found during the inspections to need repair. Corrective actions shall return the pressure drop to within the permitted range, eliminate visible emissions, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter.	Minn. R. 7007.0800, subp. 4, 5, and 14
Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.	Minn. R. 7007.0800, subp. 4, 5 and 14
The Permittee shall operate and maintain the fabric filter in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.	Minn. R. 7007.0800, subp. 14

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-21**

12/10/08

Facility Name: MinnErgy LLC
 Permit Number: 10901021 - 001

Subject Item: CE 003 Packed-Gas Adsorption Column

Associated Items: EU 014 Yeast Tank
 EU 015 Fermenter 1
 EU 016 Fermenter 2
 EU 017 Fermenter 3
 EU 018 Fermenter 4
 EU 019 Beerwell

What to do	Why to do it
The Permittee shall operate and maintain the scrubber at all times that any emission unit controlled by the scrubber is in operation. The Permittee shall document periods of non-operation of the control equipment.	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000; To avoid classification as major source under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 2 and 14
The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Volatile Organic Compounds: greater than or equal to 95 percent collection efficiency	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000; To avoid classification as major source under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 2 and 14
Water flow rate: greater than or equal to 35 gallons/minute , unless a new minimum is set pursuant to Minn. R. 7017.2025, subp. 3 based on the values recorded during the most recent MPCA-approved performance test where compliance was demonstrated. The new minimum shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The new minimum is final upon issuance of a permit amendment incorporating the change. If the flowrate is below the minimum limit, the VOC during that time shall be considered uncontrolled until the flowrate is above the minimum limit. This shall be reported as a deviation.	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000; To avoid classification as major source under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 2 and 14
Pressure Drop: greater than or equal to 2.0 inches of water column and less than or equal to 6.0 inches of water column	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000; To avoid classification as major source under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 2 and 14
Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording scrubbing liquid flowrate as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the scrubber is in operation.	Minn. R. 7007.0800, subp. 4
Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - the recorded flowrate is less than the required minimum; or - the scrubber or any of its components are found during the inspections to need repair. Corrective actions shall return the flowrate to within the permitted range 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. The Permittee shall keep a record of the type and date of any corrective action taken for each filter.	Minn. R. 7007.0800, subp. 4, 5, and 14
Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.	Minn. R. 7007.0800, subp. 4, 5 and 14
The Permittee shall operate and maintain the scrubber 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

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-22**

12/10/08

Facility Name: MinnErgy LLC

Permit Number: 10901021 - 001

Subject Item: CE 004 Thermal Oxidizer

Associated Items:

- EU 020 Slurry Mixer
- EU 021 Slurry Tank
- EU 022 Cook Tube
- EU 023 Flash Vessel
- EU 024 Liquefaction Tank 1
- EU 025 Liquefaction Tank 2
- EU 026 Process Condensate Tank
- EU 027 Beer Column
- EU 028 Side Stripper
- EU 029 Rectifier Column
- EU 030 190 Proof Condenser
- EU 031 Molecular Sieve
- EU 032 200 Proof Condenser
- EU 033 Centrifuge 1
- EU 034 Centrifuge 2
- EU 035 Centrifuge 3
- EU 036 Centrifuge 4
- EU 037 Evaporators
- EU 038 Whole Stillage Tank
- EU 039 Thin Stillage Tank
- EU 040 Syrup Tank
- EU 041 DDGS Dryer 1
- EU 042 DDGS Dryer 2
- EU 043 TO/HRSG, 135 MMBtu/hr

What to do	Why to do it
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: to avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Temperature: greater than or equal to 1500 degrees F as a 3-hour rolling average at the combustion chamber outlet as, unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3 based on the values recorded during the most recent MPCA-approved performance test where compliance was demonstrated. The new limit shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The limit is final upon issuance of a permit amendment incorporating the change. If the 3-hour rolling average temperature is below the minimum temperature limit, the VOC used during that time shall be considered uncontrolled until the average temperature is above the minimum temperature limit. This shall be reported as a deviation.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 2 and 14; Minn. R. 7017.2025, subp. 3
The Permittee shall maintain a continuous hard copy readout or computer disk file of the temperature readings and calculated three hour rolling average temperatures for the combustion chamber.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-23**

12/10/08

Facility Name: MinnErgy LLC

Permit Number: 10901021 - 001

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, if specified in this permit for this equipment; 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: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 4 and 5
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
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
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
Quarterly Inspections: At least once per calendar quarter, or more frequently if required by manufacturer's specifications, 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
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**A-24**

12/10/08

Facility Name: MinnErgy LLC

Permit Number: 10901021 - 001

Subject Item: CE 007 Fabric Filter - Low Temperature, i.e., T<180 Degrees F**Associated Items:** EU 044 DDGS Cooling Cyclone

What to do	Why to do it
The Permittee shall operate and maintain the fabric filter at all times that any emission unit controlled by the fabric filter is in operation. The Permittee shall document periods of non-operation of the control equipment.	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000; To avoid classification as major source under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 2 and 14
The Permittee shall operate and maintain the control equipment such that it achieves a collection efficiency for Total Particulate Matter: greater than or equal to 99 percent collection efficiency	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000; To avoid classification as major source under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 2 and 14
The Permittee shall operate and maintain the control equipment such that it achieves a collection efficiency for Particulate Matter < 10 micron: greater than or equal to 99 percent collection efficiency	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000; To avoid classification as major source under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 2 and 14
Visible Emissions: The Permittee shall check each fabric filter stack for any visible emissions once each day of operation during daylight hours. During inclement weather, the Permittee shall read and record the pressure drop across the fabric filter, once each day of operation.	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000; To avoid classification as a major source under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 4 and 5
Determination of normal pressure drop range: During the initial performance test, the Permittee shall observe and record the pressure drop across the baghouse. Normal pressure drop range is defined as the observed pressure drop (in inches of water column) plus or minus 1 inch water column. The Permittee shall record the normal range in the O and M Plan.	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000; To avoid classification as a major source under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 4 and 5
Recordkeeping of Visible Emissions and Pressure Drop. The Permittee shall record the time and date of each visible emission inspection and pressure drop reading, and whether or not any visible emissions were observed, and whether or not the observed pressure drop was within the normal range.	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000; To avoid classification as a major source under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 4 and 5
Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored fabric filter is in operation.	Minn. R. 7007.0800, subp. 4
Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - visible emissions are observed; - the recorded pressure drop is outside the required operating range; or - the fabric filter or any of its components are found during the inspections to need repair. Corrective actions shall return the pressure drop to within the permitted range, eliminate visible emissions, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter.	Minn. R. 7007.0800, subp. 4, 5, and 14
Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.	Minn. R. 7007.0800, subp. 4, 5 and 14
The Permittee shall operate and maintain the fabric filter in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.	Minn. R. 7007.0800, subp. 14

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-25**

12/10/08

Facility Name: MinnErgy LLC

Permit Number: 10901021 - 001

Subject Item: CE 008 Fabric Filter - Low Temperature, i.e., T<180 Degrees F**Associated Items:** EU 045 DDGS Truck Loadout

EU 046 DDGS Rail Loadout

What to do	Why to do it
The Permittee shall operate and maintain the fabric filter at all times that any emission unit controlled by the fabric filter is in operation. The Permittee shall document periods of non-operation of the control equipment.	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000; To avoid classification as major source under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 2 and 14
The Permittee shall operate and maintain the control equipment such that it achieves a collection efficiency for Total Particulate Matter: greater than or equal to 99 percent collection efficiency	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000; To avoid classification as major source under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 2 and 14
The Permittee shall operate and maintain the control equipment such that it achieves a collection efficiency for Particulate Matter < 10 micron: greater than or equal to 99 percent collection efficiency	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000; To avoid classification as major source under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 2 and 14
Visible Emissions: The Permittee shall check each fabric filter stack for any visible emissions once each day of operation during daylight hours. During inclement weather, the Permittee shall read and record the pressure drop across the fabric filter, once each day of operation.	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000; To avoid classification as a major source under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 4 and 5
Determination of normal pressure drop range: During the initial performance test, the Permittee shall observe and record the pressure drop across the baghouse. Normal pressure drop range is defined as the observed pressure drop (in inches of water column) plus or minus 1 inch water column. The Permittee shall record the normal range in the O and M Plan.	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000; To avoid classification as a major source under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 4 and 5
Recordkeeping of Visible Emissions and Pressure Drop. The Permittee shall record the time and date of each visible emission inspection and pressure drop reading, and whether or not any visible emissions were observed, and whether or not the observed pressure drop was within the normal range.	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000; To avoid classification as a major source under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 4 and 5
Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored fabric filter is in operation.	Minn. R. 7007.0800, subp. 4
Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - visible emissions are observed; - the recorded pressure drop is outside the required operating range; or - the fabric filter or any of its components are found during the inspections to need repair. Corrective actions shall return the pressure drop to within the permitted range, eliminate visible emissions, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter.	Minn. R. 7007.0800, subp. 4, 5, and 14
Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.	Minn. R. 7007.0800, subp. 4, 5 and 14
The Permittee shall operate and maintain the fabric filter in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.	Minn. R. 7007.0800, subp. 14

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-26**

12/10/08

Facility Name: MinnErgy LLC

Permit Number: 10901021 - 001

Subject Item: FS 001 Truck Traffic

What to do	Why to do it
Ethanol loadout to trucks: less than or equal to 40 % by volume of all ethanol loaded to trucks and rail cars during each calendar day/year	Minn. R. ch. 7009
<p>No person shall 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.</p> <p>No person shall cause or permit a building or its appurtenances or a road, or a driveway, or an open area to be constructed, used, repaired, or demolished without applying all such reasonable measures as may be required to prevent particulate matter from becoming airborne. All persons shall take reasonable precautions to prevent the discharge of visible fugitive dust emissions beyond the lot line of the property on which the emissions originate. The commissioner may require such reasonable measures as may be necessary to prevent particulate matter from becoming airborne including, but not limited to, paving or frequent clearing of roads, driveways, and parking lots; application of dust-free surfaces; application of water; and the planting and maintenance of vegetative ground cover.</p>	Minn. R. 7011.0150
<p>Haul Road (roads used by trucks transporting grain, DDGS, ethanol or denaturant) requirements</p> <ul style="list-style-type: none"> - All haul roads must be paved with hot mix asphalt or concrete and include centerline striping. - The Permittee shall use only salt (not sand) for wintertime ice abatement on haul roads. - The Permittee shall sweep/clean all haul roads daily. - The Permittee shall install signs limiting vehicle speed to 15 mph on roads to and from the grain receiving area and 10 mph on all other roads. 	Minn. R. ch. 7009
<p>Daily Vehicle Limit</p> <p>maximum of 226 trucks and tractors per day, including all trucks and tractors transporting grain, ethanol, DDGS, wetcake, and denaturant</p>	Minn. R. CH. 7009

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-27

12/10/08

Facility Name: MinnErgy LLC

Permit Number: 10901021 - 001

Subject Item: FS 004 Equipment Leaks

What to do	Why to do it
STANDARDS: PUMPS	hdr
<p>Pumps in light liquid service:</p> <p>(a)(1) Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in 40 CFR Section 60.485a(b), except as provided in 40 CFR Section 60.482-1a(c) and (f) and paragraphs (d), (e), and (f).</p> <p>(2) Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of dripping from the seal.</p>	40 CFR Section 60.482-2a(a)
<p>(b)(1) If an instrument reading of 2,000 ppm or greater is measured, a leak is detected.</p> <p>(2) If there are indications of liquids dripping from the pump seal, the Permittee shall follow the procedures specified in either (i) or (ii) following. This requirement does not apply to a pump that was monitored after a previous weekly inspection and the instrument reading was less than 2000 ppm.</p> <p>(i) Monitor the pump within 5 days as specified in Section 60.485a(b). A leak is detected if the instrument reading equals or exceeds 2000 ppm. the leak shall be repaired using the procedures in paragraph (c).</p> <p>(ii) Designate the pump as leaking and repair the leak using the procedures in paragraph (c), or by eliminating the visual indications of liquid dripping.</p>	40 CFR Section 60.482-2a(b)
<p>(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 40 CFR Section 60.482-9a (Delay of Repair).</p> <p>(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. First attempts at repair include but are not limited to</p> <p>(i) tightening packing gland nuts;</p> <p>(ii) ensuring that the seal flush is operating at design temperature and pressure.</p>	40 CFR Section 60.482-2a(c)
<p>(d) Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraph (a) of Section 60.482-2a, provided the requirements specified in paragraphs (d)(1) through (6) of Section 60.482a(d) are met.</p>	40 CFR Section 60.482-2a(d)
<p>(e) Any pump that is designated, as described in Section 60.486a(e)(1) and (2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraphs (a), (c), and (d) of this Section 60.482-2a if the pump:</p> <p>(1) Has no externally actuated shaft penetrating the pump housing;</p> <p>(2) Is demonstrated to be operating with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background as measured by the methods specified in Section 60.485a(c); and</p> <p>(3) Is tested for compliance with paragraph (e)(2) of this section initially upon designation, annually, and at other times requested by the Administrator.</p>	40 CFR Section 60.482-2a(e)
<p>(f) If any pump is equipped with a closed vent system capable of capturing and transporting any leakage from the seal or seals to a process or to a fuel gas system or to a control device that complies with the requirements of Section 60.482-10a, it is exempt from Section 60.482-2a (a) through (e).</p>	40 CFR Section 60.482-2a(f)
<p>(g) Any pump that is designated, as described in 40 CFR Section 60.486a(f)(1), as an unsafe-to-monitor pump is exempt from the monitoring and inspection requirements of paragraphs (a) and (d)(4) through (6) of this section if:</p> <p>(1) The owner or operator of the pump demonstrates that the pump is unsafe-to-monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a) of this section; and</p> <p>(2) The owner or operator of the pump has a written plan that requires monitoring of the pump as frequently as practicable during safe-to-monitor times, but not more frequently than the periodic monitoring schedule otherwise applicable, and repair of the equipment according to the procedures in paragraph (c) of this section if a leak is detected.</p>	40 CFR Section 60.482-2a(g)
STANDARDS: COMPRESSORS	hdr
<p>(a) Each compressor shall be equipped with a seal system that includes a barrier fluid system that prevents leakage of VOC to the atmosphere, except as provided in 40 CFR Section 60.482-1a(c) and 40 CFR Section 60.482-3(h), (i) and (j).</p>	40 CFR Section 60.482-3a(a)

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-28**

12/10/08

Facility Name: MinnErgy LLC

Permit Number: 10901021 - 001

<p>(b) Each compressor seal system shall be:</p> <p>(1) Operated with the barrier fluid at a pressure that is greater than the compressor stuffing box pressure; or</p> <p>(2) Equipped with a barrier fluid system degassing reservoir that is routed to a process or fuel gas system, or connected by a closed vent system to a control device that complies with the requirements of 40 CFR Section 60.482-10a; or</p> <p>(3) Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere.</p>	40 CFR Section 60.482-3a(b)
<p>(c) The Barrier fluid system shall be in heavy liquid service or shall not be in VOC service.</p> <p>(d) Each barrier fluid system shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.</p>	40 CFR Section 60.482-3a(c) and (d)
<p>(e)(1) Each sensor shall be checked daily or shall be equipped with an audible alarm.</p> <p>(2) The Permittee shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.</p>	40 CFR Section 60.482-3a(e)
<p>(f) If the sensor indicates failure of the seal system, the barrier system, or both based on the criterion determined under paragraph (e)(2), a leak is detected.</p>	40 CFR Section 60.482-3a(f)
<p>(g)(1) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after it is detected except as provided in 40 CFR 60.482-9a (Delay of Repair).</p> <p>(2) A first attempt at repair shall be made no later than 15 calendar days after it is detected.</p>	40 CFR Section 60.482-3a(g)
<p>(h) A compressor is exempt from the requirements of Section 60.482-3a (a) and (b) of this section, if it is equipped with a closed vent system to capture and transport leakage from the compressor drive shaft back to a process or fuel gas system or to a control device that complies with the requirements of Section 60.482-10a, except as provided in Section 60.482-3a(i).</p>	40 CFR Section 60.482-3a(h)
<p>(i) Any compressor that is designated, as described in Section 60.486a(e)(1) and (2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of Section 60.482-3a (a) through (h) if the compressor:</p> <p>(1) Is demonstrated to be operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the methods specified in Section 60.485a(c); and</p> <p>(2) Is tested for compliance with paragraph (i)(1) of this section initially upon designation, annually, and at other times requested by the Administrator.</p>	40 CFR Section 60.482-3a(i)
STANDARDS: PRESSURE RELIEF VALVES IN GAS/VAPOR SERVICE	hdr
<p>(a) Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background as determined by the methods specified in 40 CFR Section 60.485a(c).</p> <p>(b)(1) After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after the pressure release, except as provided in 40 CFR Section 60.482-9a (Delay of Repair).</p>	40 CFR Section 60.482-4a(a) and (b)
<p>(c) Any pressure relief device that is routed to a process or fuel gas system or equipped with a closed vent system capable of capturing and transporting leakage through the pressure relief device to a control device as described in Section 60.482-10a is exempted from the requirements of Section 60.482-4a (a) and (b).</p>	40 CFR Section 60.482-4a(c)

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-29**

12/10/08

Facility Name: MinnErgy LLC

Permit Number: 10901021 - 001

<p>(d)(1) Any pressure relief device that is equipped with a rupture disk upstream of the pressure relief device is exempt from the requirements of Section 60.482-4a (a) and (b) of this section, provided the owner or operator complies with the requirements in paragraph (d)(2).</p> <p>(2) After each pressure release, a new rupture disk shall be installed upstream of the pressure relief device as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in Section 60.482-9a.</p>	40 CFR Section 60.482-4a(d)
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 Section 60.482-1a(c).	40 CFR Section 60.482-5a(a)
<p>(b) Each closed-purge, closed-loop, or closed-vent system shall comply with the following:</p> <p>(1) Gases displaced during the filling of the sample container are not required to be collected or captured.</p> <p>(2) Containers that are part of a closed-purge system must be covered or closed when not being filled or emptied.</p> <p>(3) Gases remaining in the tubing or piping between the closed-purge system valves and sample container valves after the valves are closed and the sample container is disconnected are not required to be collected or captured.</p> <p>(4) Each closed-purge, closed-loop, or closed-vent system shall be designed and operated to meet requirements in either 40 CFR Section 60.482-5a(b)(4)(i), (ii), (iii), or (iv).</p>	40 CFR Section 60.482-5a(b)
(c) In situ sampling systems and sampling systems without purges are exempt from these requirements.	40 CFR Section 60.482-5a(c)
STANDARDS: OPEN ENDED VALVES OR LINES	hdr
<p>(a)(1) Each open-ended valve or line shall be equipped with a cap, blind flange, plug or a second valve, except as provided in 40 CFR Section 60.482-1a(c).</p> <p>(2) The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line.</p>	40 CFR Section 60.482-6a(a)
<p>(b) Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.</p> <p>(c) When a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with paragraph (a) at all other times.</p>	40 CFR Section 60.482-6a(b) and (c)
(d) Open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of a process upset are exempt from the requirements of Section 60.482-6a (a), (b), and (c).	40 CFR Section 60.482-6a(d)
(e) Open-ended valves or lines containing materials which would autocatalytically polymerize or would present an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system as specified in Section 60.482-6a (a) through (c) of this section are exempt from those requirements.	40 CFR Section 60.482-6a(e)
STANDARDS: VALVES IN GAS/VAPOR SERVICE AND IN LIGHT LIQUID SERVICE	hdr
<p>(a) Each valve shall be monitored monthly to detect leaks by the methods specified in 40 CFR Section 60.485a(b).</p> <p>(b) If an instrument reading of 500 ppm or greater is measured, a leak is detected.</p> <p>(c)(1) Any valve for which a leak is not detected for 2 successive month may be monitored the first month of every quarter, beginning with the next quarter, until a leak is detected.</p> <p>(2) If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months.</p>	40 CFR Section 60.482-7a(a), (b), and (c)

TABLE A: LIMITS AND OTHER REQUIREMENTS
A-30

12/10/08

Facility Name: MinnErgy LLC

Permit Number: 10901021 - 001

<p>(d)(1) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in 40 CFR Section 60.482-9a.</p> <p>(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.</p>	40 CFR Section 60.482-7a(d)
<p>(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.</p>	40 CFR Section 60.482-7a(e)
<p>(f) Any valve that is designated, as described in Section 60.486a(e)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of Section 60.482-7a(a) if the valve:</p> <p>(1) Has no external actuating mechanism in contact with the process fluid,</p> <p>(2) Is operated with emissions less than 500 ppm above background as determined by the method specified in Section 60.485a(c), and</p> <p>(3) Is tested for compliance with Section 60.482-7a(f)(2) of this section initially upon designation, annually, and at other times requested by the Administrator.</p>	40 CFR Section 60.482-7a(f)
<p>(g) Any valve that is designated, as described in Section 60.486a(f)(1), as an unsafe-to-monitor valve is exempt from the requirements of Section 60.482-7a (a) if:</p> <p>(1) The owner or operator of the valve demonstrates that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a), and</p> <p>(2) The owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.</p>	40 CFR Section 60.482-7a(g)
<p>(h) Any valve that is designated, as described in Section 60.486a(f)(2), as a difficult-to-monitor valve is exempt from the requirements of Section 60.482-7a(a) of this section if:</p> <p>(1) The owner or operator of the valve demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface.</p> <p>(2) The process unit within which the valve is located either:</p> <p>(i) Becomes an affected facility through Section 60.14 or Section 60.15 and was constructed on or before January 5, 1981; or</p> <p>(ii) Has less than 3.0 percent of its total number of valves designated as difficult-to-monitor by the owner or operator.</p> <p>(3) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.</p>	40 CFR Section 60.482-7a(h)
<p>STANDARDS: PUMPS, VALVES AND CONNECTORS IN HEAVY LIQUID SERVICE, PRESSURE RELIEF DEVICES IN LIGHT LIQUID OR HEAVY LIQUID SERVICE</p>	hdr
<p>(a) Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service and flanges and other connectors shall be monitored within 5 days by the method specified in 40 CFR Section 60.485a(b) if evidence of a potential leak is found by visual, audible, olfactory, or any other detection method.</p> <p>(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.</p> <p>(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 40 CFR Section 60.482-9a (Delay of Repair). (2) The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.</p> <p>(d) First attempts at repair include, but are not limited to, the best practices described under 40 CFR Section 60.482-7a(e).</p>	40 CFR Section 60.482-8a(a) through (d)
<p>DELAY OF REPAIR</p>	hdr
<p>(a) Delay of repair of equipment for which leaks have been detected will be allowed if repair within 15 days is technically infeasible without a process unit shutdown. Repair of this equipment shall occur before the end of the next process unit shutdown. Monitoring to verify repair must occur within 5 days after startup of the process unit.</p> <p>(b) Delay of repair of equipment will be allowed for equipment which is isolated from the process and which does not remain in VOC service.</p>	40 CFR Section 60.482-9a(a) and (b)

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-31**

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<p>(c) Delay of repair for valves and connectors will be allowed if:</p> <p>(1) The Permittee demonstrates that emissions of purged material resulting from the immediate repair are greater than the fugitive emissions likely to result from delay of repair, and</p> <p>(2) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with 40 CFR Section 60.482-10a.</p> <p>(d) Delay of repair for pumps will be allowed if:</p> <p>(1) Repair required the use of a dual mechanical seal system that includes a barrier fluid system, and</p> <p>(2) Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.</p>	40 CFR Section 60.482-9a(c) and (d)
<p>(e) Delay of repair beyond a process unit shutdown will be allowed for a valve, if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies have been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next process unit shutdown will not be allowed unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.</p>	40 CFR Section 60.482-9a (e)
<p>(f) When delay of repair is allowed for a leaking pump, valve, or connector that remains in service, the pump, valve, or connector may be considered to be repaired and no longer subject to delay of repair requirements if two consecutive monthly monitoring instrument readings are below the leak definition.</p>	40 CFR Section 60.482-9a (f)
CLOSED VENT SYSTEMS AND CONTROL DEVICES	hdr
Vapor recovery systems shall be designed and operated to recover the VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume (ppmv), whichever is less stringent.	40 CFR Section 60.482-10a(b)
Enclosed combustion devices shall be designed and operated to reduce the VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 ppmv, on a dry basis, corrected to 3 percent oxygen, whichever is less stringent, or to provide a minimum residence time of 0.75 second at a minimum temperature of 816 deg C (1500 deg F).	40 CFR Section 60.482-10a(c)
Flares used to comply with these requirements shall comply with the requirements of 40 CFR Section 60.18.	40 CFR Section 60.482-10a(d)
Control devices used to comply with these requirements shall be monitored as required by this permit, or operated and maintained in conformance with their design and manufacturer's specifications.	40 CFR Section 60.482-10a(e)
<p>Each closed vent system shall be inspected as follows:</p> <p>(1) If the vapor collection or closed vent system is constructed of pipe or tubing meeting standard ASME B31.3 (or equivalent), the Permittee shall:</p> <p>(i) conduct an initial inspection according to procedures in 40 CFR 60.485a(b), and</p> <p>(ii) conduct annual visual inspections for visible, audible, or olfactory indications of leaks.</p> <p>(2) If the vapor collection or closed vent system is constructed of ductwork (sheetmetal construction with screwed or crimped connections), the Permittee shall:</p> <p>(i) conduct an initial inspection according to procedures in 40 CFR 60.485a(b), and</p> <p>(i) conduct annual inspections according to procedures in 40 CFR 60.485a(b).</p>	40 CFR Section 60.482-10a(f)
<p>For closed vent systems or control devices, a leak is indicated by an instrument reading of more than 500 ppm above background level, or by visual inspection.</p> <p>(1) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.</p> <p>(2) Repair shall be completed no later than 15 calendar days after the leak is detected.</p>	40 CFR Section 60.482-10a(g)

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

12/10/08

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Delay of repair of a closed vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown or if the Permittee determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next process unit shutdown.	40 CFR Section 60.482-10a(h)
A vapor collection system or closed vent system operated under a vacuum is exempt from the inspection requirements.	40 CFR Section 60.482-10a(i)
Any parts of the closed vent system that are designated, as described in paragraph (l)(1) of this section, as unsafe to inspect are exempt from the inspection requirements if they comply with the requirements in paragraphs (1) and (2) below: (1) The owner or operator determines that the equipment is unsafe to inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of attempting to inspect; and (2) The owner or operator has a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times.	40 CFR Section 60.482-10a(j)
Any parts of the closed vent system that are designated as difficult to inspect are exempt from the inspection requirements if they comply with the requirements specified in paragraphs (1) through (3) following: (1) The owner or operator determines that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters above a support surface; and (2) The process unit within which the closed vent system is located becomes an affected facility through 40 CFR Section 60.14 or 60.15, or the owner or operator designates less than 3.0 percent of the total number of closed vent system equipment as difficult to inspect; and (3) The owner or operator has a written plan that requires inspection of the equipment at least once every 5 years. A closed vent system is exempt from inspection if it is operated under a vacuum.	40 CFR Section 60.482-10a(k)
The owner or operator shall record the information specified in paragraphs (1) through (5) below. (1) Identification of all parts of the closed vent system that are designated as unsafe to inspect, an explanation of why the equipment is unsafe to inspect, and the plan for inspecting the equipment. (2) Identification of all parts of the closed vent system that are designated as difficult to inspect, an explanation of why the equipment is difficult to inspect, and the plan for inspecting the equipment. (3) For each inspection during which a leak is detected, a record of the information specified in 40 CFR Section 60.486a(c).	40 CFR Section 60.482-10a(l)
continued (4) For each inspection conducted in accordance with 40 CFR Section 60.485a(b) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected. (5) For each visual inspection during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.	continued
STANDARDS: CONNECTORS IN GAS/VAPOR SERVICE AND LIGHT LIQUID SERVICE	hdr
(a) The Permittee shall initially monitor all connectors in the process unit for leaks by 12 months after initial startup. If all connectors in the process unit have been monitored for leaks prior to the compliance date, no initial monitoring is required provided either no process changes have been made since the monitoring or the owner or operator can determine that the results of the monitoring, with or without adjustments, reliably demonstrate compliance despite process changes. If required to monitor because of a process change, the owner or operator is required to monitor only those connectors involved in the process change.	40 CFR Section 60.482-11a(a)

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-33**

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<p>(b) Except as allowed in 40 CFR Section 60.482-1a(c) and 60.482-10a, or as specified in paragraph (e) below, the Permittee shall monitor all connectors in gas and vapor and light liquid service as follows.</p> <p>(1) The connectors shall be monitored to detect leaks by the method specified in 40 CFR Section 60.485a(b) and, as applicable section 60.485a(c).</p> <p>(2) If an instrument reading greater than or equal to 500 ppm is measured, a leak is detected.</p>	40 CFR Section 60.482-11a(b)
<p>continued</p> <p>(3) The owner or operator shall perform monitoring, subsequent to the initial monitoring required in paragraph (a) of this section, as specified in paragraphs (b)(3)(i) through (iii) of this section, and shall comply with the requirements of paragraphs (b)(3)(iv) and (v) of this section. The required period in which monitoring must be conducted shall be determined from paragraphs (b)(3)(i) through (iii) of this section using the monitoring results from the preceding monitoring period. The percent leaking connectors shall be calculated as specified in paragraph (c) of this section.</p> <p>(i) If the percent leaking connectors in the process unit was greater than or equal to 0.5 percent, then monitor within 12 months (1 year).</p>	<p>continued</p> <p>40 CFR Section 60.482-11a(b)</p>
<p>continued</p> <p>(ii) If the percent leaking connectors in the process unit was greater than or equal to 0.25 percent but less than 0.5 percent, then monitor within 4 years. An owner or operator may comply with the requirements of this paragraph by monitoring at least 40 percent of the connectors within 2 years of the start of the monitoring period, provided all connectors have been monitored by the end of the 4-year monitoring period.</p> <p>(iii) If the percent leaking connectors in the process unit was less than 0.25 percent, then monitor as provided in paragraph (b)(3)(iii)(A) of this section and either paragraph (b)(3)(iii)(B) or (b)(3)(iii)(C) of this section, as appropriate.</p>	<p>continued</p> <p>40 CFR Section 60.482-11a(b)</p>
<p>continued</p> <p>(A) An owner or operator shall monitor at least 50 percent of the connectors within 4 years of the start of the monitoring period.</p> <p>(B) If the percent of leaking connectors calculated from the monitoring results in paragraph (b)(3)(iii)(A) of this section is greater than or equal to 0.35 percent of the monitored connectors, the owner or operator shall monitor as soon as practical, but within the next 6 months, all connectors that have not yet been monitored during the monitoring period. At the conclusion of monitoring, a new monitoring period shall be started pursuant to paragraph (b)(3) of this section, based on the percent of leaking connectors within the total monitored connectors.</p>	<p>continued</p> <p>40 CFR Section 60.482-11a(b)</p>
<p>continued</p> <p>(C) If the percent of leaking connectors calculated from the monitoring results in paragraph (b)(3)(iii)(A) of this section is less than 0.35 percent of the monitored connectors, the owner or operator shall monitor all connectors that have not yet been monitored within 8 years of the start of the monitoring period.</p>	<p>continued</p> <p>40 CFR Section 60.482-11a(b)</p>
<p>continued</p> <p>(iv) If, during the monitoring conducted pursuant to paragraphs (b)(3)(i) through (iii) of this section, a connector is found to be leaking, it shall be re-monitored once within 90 days after repair to confirm that it is not leaking.</p> <p>(v) The owner or operator shall keep a record of the start date and end date of each monitoring period under this section for each process unit.</p>	<p>continued</p> <p>40 CFR Section 60.482-11a(b)</p>
<p>(c) For use in determining the monitoring frequency, the percent leaking connectors as used in paragraph shall be calculated by using the equation in 40 CFR Section 60.482-11a(c).</p>	40 CFR Section 60.482-11a(c)
<p>(d) 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 Section 60.482-9a. A first attempt at repair as defined in this subpart shall be made no later than 5 calendar days after the leak is detected.</p>	40 CFR Section 60.482-11a(d)

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-34**

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<p>(e) Any connector that is designated, as described in 40 CFR Section 60.486a(f)(1), as an unsafe-to-monitor connector is exempt from the requirements of this section if:</p> <p>(1) The owner or operator of the connector demonstrates that the connector is unsafe-to-monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with this section; and</p> <p>(2) The owner or operator of the connector has a written plan that requires monitoring of the connector as frequently as practicable during safe-to-monitor times but not more frequently than the periodic monitoring schedule otherwise applicable, and repair of the equipment according to the procedures in paragraph (d) of this section if a leak is detected.</p>	40 CFR Section 60.482-11a(e)
<p>(f) Inaccessible, ceramic, or ceramic-lined connectors (1) Any connector that is inaccessible or that is ceramic or ceramic-lined (e.g., porcelain, glass, or glass-lined), is exempt from the monitoring requirements of this section and from the leak repair requirements of this section. An inaccessible connector is one that meets any of the provisions specified in paragraphs (f)(1)(i) through (vi) of this section, as applicable:</p> <p>(i) Buried;</p> <p>(ii) Insulated in a manner that prevents access to the connector by a monitor probe;</p> <p>(iii) Obstructed by equipment or piping that prevents access to the connector by a monitor probe;</p> <p>(iv) Unable to be reached from a wheeled scissor-lift or hydraulic-type scaffold that would allow access to connectors up to 7.6 meters (25 feet) above the ground;</p>	40 CFR Section 60.482-11a(f)
TESTING PROCEDURES	hdr
The Permittee shall use the test methods specified in 40 CFR Section 60.485a.	40 CFR Section 60.485a(b)
<p>continued</p> <p>(v) Inaccessible because it would require elevating the monitoring personnel more than 2 meters (7 feet) above a permanent support surface or would require the erection of scaffold; or</p> <p>(vi) Not able to be accessed at any time in a safe manner to perform monitoring. Unsafe access includes, but is not limited to, the use of a wheeled scissor-lift on unstable or uneven terrain, the use of a motorized man-lift basket in areas where an ignition potential exists, or access would require near proximity to hazards such as electrical lines, or would risk damage to equipment.</p> <p>(2) If any inaccessible, ceramic, or ceramic-lined connector is observed by visual, audible, olfactory, or other means to be leaking, the visual, audible, olfactory, or other indications of a leak to the atmosphere shall be eliminated as soon as practical.</p>	continued
RECORDKEEPING	hdr
<p>(a)(3) The Permittee shall record the information specified below for each monitoring event by Section 60.482-2a (pumps in light liquid service), Section 60.482-3a (compressors), Section 60.482-7a (valves in gas/vapor service and light liquid service), Section 60.482-8a (pumps, valves and connectors in heavy liquid service and pressure relief devices in light liquid or heavy liquid service), and Section 60.482-11a (connectors):</p> <p>(i) monitoring instrument identification</p> <p>(ii) operator identification</p> <p>(iii) equipment identification</p> <p>(iv) date of monitoring</p> <p>(v) instrument reading</p>	40CFR Section 60.486a(a)(3)

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-35**

12/10/08

Facility Name: MinnErgy LLC

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<p>(b) When each leak is detected, the following requirements apply:</p> <p>(1) A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment.</p> <p>(2) The identification on a valve may be removed after it has been monitored for 2 successive months as specified in 40 CFR Section 60.482-7a(c) and no leak has been detected during those 2 months.</p> <p>(3) The identification on a connector may be removed after it has been monitored as specified in Section 60.482-11a(b)(3)(iv) and no leak has been detected during that monitoring.</p> <p>(4) The identification on equipment except on a valve may be removed after it has been repaired.</p>	40CFR Section 60.486a(b)
<p>(c) When each leak is detected the following information shall be recorded in a log and shall be kept for 2 years in a readily accessible location:</p> <p>(1) The instrument and operator identification numbers and the equipment identification number.</p> <p>(2) The date the leak was detected and the dates of each attempt to repair the leak.</p> <p>(3) Repair methods applied in each attempt to repair the leak.</p> <p>(4) Maximum instrument reading measured by Method 21 of appendix A-7 of 40 CFR Part 60 at the time the leak is successfully repaired or determined to be nonreparable, except when a pump is repaired by eliminating indications of liquids dripping.</p> <p>(5) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.</p>	40 CFR Section 60.486a(c)
<p>continued</p> <p>(6) The signature of the owner or operator whose decision it was that the repair could not be effected without a process shutdown.</p> <p>(7) The expected date of successful repair of the leak if a leak is not repaired within 15 days.</p> <p>(8) Dates of process unit shutdown that occur while the equipment is unrepaired.</p> <p>(9) The date of successful repair of the leak.</p>	40 CFR Section 60.486a(c) continued
<p>(d) The following information pertaining to the design requirements for closed vent systems and control devices described in Section 60.482-10a shall be recorded and kept in a readily accessible location:</p> <p>(1) Detailed schematics, design specifications, and piping and instrumentation diagrams.</p> <p>(2) The dates and descriptions of any changes in the design specifications.</p> <p>(3) A description of the parameter or parameters monitored, as required in Section 60.482-10a(e), to ensure that control devices are operated and maintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring.</p> <p>(4) Periods when the closed vent systems and control devices required in Sections 60.482-2a, 60.482-3a, 60.482-4a, and 60.482-5a are not operated as designed, including periods when a flare pilot light does not have a flame.</p>	40 CFR Section 60.486a(d)
<p>continued</p> <p>(5) Dates of startups and shutdowns of the closed vent systems and control devices required in Section 60.482-2a, 60.482-3a, 60.482-4a, and 60.482-5a.</p>	40 CFR Section 60.486a(d) continued

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-36**

12/10/08

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<p>(e) The following information pertaining to all equipment subject to the requirements in Sections 60.482-1a to 60.482-11a shall be recorded in a log that is kept in a readily accessible location:</p> <p>(1) A list of identification numbers for equipment subject to the requirements of this subpart.</p> <p>(2)(i) A list of identification numbers for equipment that are designated for no detectable emissions under the provisions of Sections 60.482-2a(e), 60.482-3a(i) and 60.482-7a(f).</p> <p>(ii) The designation of equipment as subject to the requirements of Sections 60.482-2a(e), 60.482-3a(i), or 60.482-7a(f) shall be signed by the owner or operator.</p>	40 CFR Section 60.486a(e)
<p>(3) A list of equipment identification numbers for pressure relief devices required to comply with Section 60.482-4a.</p> <p>(4)(i) The dates of each compliance test as required in Section 60.482-2a(e), 60.482-3a(i), 60.482-4a, and 60.482-7a(f).</p> <p>(ii) The background level measured during each compliance test.</p> <p>(iii) The maximum instrument reading measured at the equipment during each compliance test.</p> <p>(5) A list of identification numbers for equipment in vacuum service.</p> <p>(6) A list of identification numbers for equipment that the owner or operator designates as operating in VOC service less than 300 hours per year in accordance with Section 60.482-1a(e), a description of the conditions under which the equipment is in VOC service, and rationale supporting the designation of less than 300 hours per year.</p>	40 CFR Section 60.486a(e) continued
<p>(7) The date and results of the weekly visual inspection for indications of liquids dripping from pumps in light liquid service.</p>	40 CFR Section 60.486a(e) continued
<p>(8) Records of the information specified in (i) through (vi) below for monitoring instrument calibrations conducted according to sections 8.1.2 and 10 of Method 21 of appendix A of 7 of this part and 60.485a(b).</p> <p>(i) Date of calibration and initials of operator performing the calibration.</p> <p>(ii) Calibration gas cylinder identification, certification date, and certified concentration.</p> <p>(iii) Instrument scale(s) used.</p> <p>(iv) A description of any corrective action taken if the meter readout could not be adjusted to correspond to the calibration gas value in accordance with section 10.1 of Method 21 of appendix A of 7 of this part.</p>	40 CFR Section 60.486a(e) continued
<p>(v) Results of each calibration drift assessment required by 60.485a(b)(2) (i.e., instrument reading for calibration at end of monitoring day and the calculated percent difference from the initial calibration value).</p> <p>(vi) If an owner or operator makes their own calibration gas, a description of the procedure used.</p> <p>(9) The connector monitoring schedule for each process unit as specified in 60.482-11a(b)(3)(v).</p> <p>(10) Records of each release from a pressure relief device subject to 60.482-4a.</p>	40 CFR Section 60.486a(e) continued
<p>(f) The following information pertaining to all valves subject to the requirements of Section 60.482-7a(g) and (h), all pumps subject to the requirements of Section 60.482-2a(g), and all connectors subject to the requirements of Section 60.482-11a(e) shall be recorded in a log that is kept in a readily accessible location:</p> <p>(1) A list of identification numbers for valves, pumps, and connectors that are designated as unsafe-to-monitor, an explanation for each valve, pump, or connector stating why the valve, pump, or connector is unsafe-to-monitor, and the plan for monitoring each valve, pump, or connector.</p> <p>(2) A list of identification numbers for valves that are designated as difficult-to-monitor, an explanation for each valve stating why the valve is difficult-to-monitor, and the schedule for monitoring each valve.</p>	40 CFR Section 60.486a(f)

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-37**

12/10/08

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<p>(h) The following information shall be recorded in a log that is kept in a readily accessible location:</p> <p>(1) Design criterion required in Section 60.482-2a(d)(5) and 60.482-3a(e)(2) and explanation of the design criterion; and</p> <p>(2) Any changes to this criterion and the reasons for the changes.</p>	40 CFR Section 60.486a(h)
<p>(j) Information and data used to demonstrate that a piece of equipment is not in VOC service shall be recorded in a log that is kept in a readily accessible location.</p>	40 CFR Section 60.486a(j)
REPORTING REQUIREMENTS	hdr
<p>(a) Each owner or operator subject to the provisions of this subpart shall submit semiannual reports to the Administrator beginning six months after the initial startup date.</p> <p>(b) The initial semiannual report to the Administrator shall include the following information:</p> <p>(1) Process unit identification</p> <p>(2) Number of valves subject to the requirements of Section 60.482-7a, excluding those valves designated for no detectable emissions.</p> <p>(3) Number of pumps subject to the requirements of Section 60.482-2a, excluding those pumps designated for no detectable emissions, and those pumps complying with a closed vent system.</p> <p>(4) Number of compressors subject to the requirements of Section 60.482-3a, excluding those compressors designated for no detectable emissions, and those compressors complying with a closed vent system.</p> <p>(5) Number of connectors subject to Section 60.482-11a.</p>	40 CFR Section 60.487a(a) and (b)
<p>(c) All semiannual reports to the Administrator shall include the following information, summarized from the information in 40 CFR Section 60.486a;</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 Section 60.482-7a(b) or Section 60.483-2a,</p> <p>(ii) Number of valves for which leaks were not repaired as required in Section 60.482-7a(d)(1),</p> <p>(iii) Number of pumps for which leaks were detected as described in Section 60.482-2a(b), (d)(4)(ii)(A) or (B), or (d)(5)(iii),</p> <p>(iv) Number of pumps for which leaks were not repaired as required in Section 60.482-2a(c)(1) and (d)(6),</p>	40 CFR Section 60.487a(c)
<p>(v) Number of compressors for which leaks were detected as described in Section 60.482-3a(f),</p> <p>(vi) Number of compressors for which leaks were not repaired as required in Section 60.482-3a(g)(1),</p> <p>(vii) Number of connectors for which leaks were detected as described in Section 60.482-11a(b),</p> <p>(viii) Number of connectors for which leaks were not repaired as required in Section 60.482-11a(d),</p> <p>(ix) The facts that explain each delay of repair and, where appropriate, why a process unit shutdown was technically infeasible.</p>	40 CFR Section 60.487a(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 Section 60.487a(c)
<p>(e) Report the results of all performance tests in accordance with Section 60.8. The provisions of Section 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 Section 60.487a(e)

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: MinnErgy LLC
Permit Number: 10901021 - 001

Subject Item: FS 005 Cooling Towers

What to do	Why to do it
Install the specified mist eliminator.	Minn. R. ch. 7009

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: MinnErgy LLC
Permit Number: 10901021 - 001

Subject Item: FS 006 Wet Cake Offload (AOS)

What to do	Why to do it
<p>When wetcake or modified wetcake byproduct is stockpiled (not dried) for shipment, it shall be stored for no longer than 72 hours onsite.</p> <p>Time stored onsite is determined for each 72 hour period (3 consecutive calendar days) by dividing the total amount of wetcake put into storage during the 72 hours by the average daily amount shipped offsite during the same 72 hours.</p> <p>The Permittee shall keep a record of the amount of wetcake sent to storage each day and the amount shipped offsite each day.</p>	<p>Minn. R. 7007.0800, subp. 2</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-40**

12/10/08

Facility Name: MinnErgy LLC

Permit Number: 10901021 - 001

Subject Item: MR 001 NOx**Associated Items:** EU 043 TO/HRSG, 135 MMBtu/hr

What to do	Why to do it
CEMS Installation: Install NOx CEMS.	40 CFR Section 60.48b(b); Minn. R. 7017.1010, subp. 1
CEMS Monitor Design: Each CEMS shall be designed to complete a minimum of one cycle of sampling, analyzing, and data recording in each 15-minute period.	40 CFR Section 60.13(e)(2)
Installation Notification: due 60 days before installing the continuous emissions monitoring system. The notification shall include plans and drawings of the system.	Minn. R. 7017.1040, subp. 1
CEMS Certification Test: due 60 days after achieving maximum production rate but not later than 180 days after initial startup or within 90 days after the due date of the first excess emissions report, whichever is more stringent.	40 CFR Section 40 CFR Section 60.8(a); 40 CFR Section 60.13(b); Minn. R. 7017.1050, subp. 1
CEMS Certification Test Plan: due 30 days before CEMS Certification Test.	40 CFR Section 60.7(a)(5); Minn. R. 7017.1060, subp. 1 & 2
CEMS Certification Test Pretest Meeting: due 7 days before CEMS Certification Test.	Minn. R. 7017.1060, subp. 3
CEMS Certification Test Report: due 45 days after CEMS Certification Test	Minn. R. 7017.1080, subp. 1, 2, & 4; 40CFR 60.13(c)(2)
CEMS Certification Test Report - Microfiche or CD Copy: due 105 days after CEMS Certification Test.	Minn. R. 7017.1080, subp. 3
Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment.	40 CFR Section 60.13(e), Minn. R. 7017.1090, subp. 1
QA Plan: Develop and implement a written quality assurance plan that covers each CEMS. The plan shall be on site and available for inspection within 30 days after monitor certification. The plan shall contain all of the information required by 40 CFR pt. 60, Appendix F, Section 3.	Minn. R. 7017.1170, subp. 2; 40 CFR pt. 60, App. F; section 3
CEMS QA/QC: The owner or operator of an affected facility is subject to the performance specifications listed in 40 CFR pt. 60, Appendix B and shall operate, calibrate, and maintain each CEMS according to the QA/QC procedures in 40 CFR pt. 60, Appendix F as amended and maintain a written QA/QC program available in a form suitable for inspection.	40 CFR pt. 60, Appendix F; 40 CFR Section 60.13(a)
CEMS Daily Calibration Drift Check: Permittees must automatically check the zero (low level value between 0 and 20 percent of span value) and span (50 to 100 percent of span value) calibration drifts at least once daily. The zero and span must, at a minimum, be adjusted whenever the drift exceeds two times the limit specified in 40 CFR pt. 60, Appendix B. 40 CFR pt. 60, Appendix F shall be used to determine out-of-control periods for CEMS.	40 CFR pt. 60, Appendix F, section 4.1; 40 CFR Section 60.13(d)(1) regarding CEMS; Minn. R. 7017.1170, subp. 3
Cylinder Gas Audit (CGA): due before end of each calendar quarter following CEMS certification test. A CGA is not required during any calendar quarter in which a RATA was performed.	40 CFR pt. 60, Appendix F, section 5.1.2; Minn. R. 7017.1170, subp. 4
CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar year following CEMS Certification Test. Follow the procedures in 40 CFR pt. 60, Appendix F.	40 CFR pt. 60, Appendix F, section 5.1.1; Minn. R. 7017.1170, subp. 5
Relative Accuracy Test Audit (RATA) Notification: due 30 days before CEMS Relative Accuracy Test Audit (RATA)).	Minn. R. 7017.1180, subp. 2
Recordkeeping: The owner or operator must retain records of all CEMS monitoring data and support information for a period of five years from the date of the monitoring sample, measurement or report. Records shall be kept at the source.	Minn. R. 7017.1130; 40 CFR Section 60.7(f)
Monitoring Data: Reduce all NOx CEM data to 1-hour averages, in accordance with 40 CFR Section 60.13(h). 1-hour averages shall be computed from four or more data points equally spaced over each 1-hour period.	40 CFR Section 60.13(h) regarding continuous monitoring systems other than COMS.

TABLE B: SUBMITTALS

B-1 12/10/08

Facility Name: MinnErgy LLC
Permit Number: 10901021 - 001

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 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

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.

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

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

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.

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

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS**B-2** 12/10/08

Facility Name: MinnErgy LLC

Permit Number: 10901021 - 001

What to send	When to send	Portion of Facility Affected
Notification of the Actual Date of Initial Startup	due 15 days after Initial Startup of CE004.	EU049, GP001, SV004
Notification of the Actual Date of Initial Startup	due 15 days after Initial Startup of EU001 and EU002	SV001
Notification of the Actual Date of Initial Startup	due 15 days after Initial Startup of EU011 and EU012	SV002
Notification of the Actual Date of Initial Startup	due 15 days after Initial Startup of EU044.	SV005
Notification of the Actual Date of Initial Startup	due 15 days after Initial Startup of EU045 and EU046.	SV006
Notification of the Actual Date of Initial Startup	due 15 days after Initial Startup of the last of EU014 through EU019.	SV003
Notification of the Date Construction Began	due 30 days after Start Of Construction. Submit the name and number of each unit and the date construction of each unit began.	EU049, GP001, SV004
Submittal	due 180 days after Permit Issuance a Diesel Idling Reduction Plan shall be submitted. The plan shall be implemented upon submittal to the Agency, and shall be modified if requested based on review by the Agency.	Total Facility
Testing Frequency Plan	due 60 days after Initial Performance Test The plan shall specify a testing frequency based on the test data and MPCA guidance. Future performance tests based on one-year (12 month), 36 month, and 60 month intervals, or as applicable, shall be required upon written approval of the MPCA.	SV001, SV002, SV003, SV004, SV005, SV006

TABLE B: RECURRENT SUBMITTALS**B-3** 12/10/08

Facility Name: MinnErgy LLC

Permit Number: 10901021 - 001

What to send	When to send	Portion of Facility Affected
Cylinder Gas Audit (CGA) Results Summary	due 30 days after end of each calendar quarter following Permit Issuance	MR001
Excess Emissions/Downtime Reports (EER's)	due 30 days after end of each calendar quarter following Initial Startup of the Monitor	MR001
Relative Accuracy Test Audit (RATA) Results Summary	due 45 days after end of each calendar quarter following Permit Issuance	MR001
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 have occurred, the Permittee shall submit the report stating no deviations.	Total Facility
Compliance Certification	due 31 days after end of each calendar year following Permit Issuance (for the previous calendar year). The Permittee shall submit this to the Commissioner on a form approved by the Commissioner. This report covers all deviations experienced during the calendar year.	Total Facility

APPENDIX MATERIAL

Facility Name: MinnErgy LLC

Permit Number: 10901021-001

Appendix I Insignificant Activities

Appendix II Modeling Data

Appendix III Best Management Odor Control Practices

Appendix I - Insignificant Activities

Insignificant Activity	General Applicable Emission limit	Discussion
Fuel use: space heaters fueled by, kerosene, natural gas, or propane	PM \leq 0.6 or 0.4 lb/MMBtu, depending on year constructed Opacity \leq 20% with exceptions (Minn. R. 7011.0510/515)	For this unit, based on the fuels used and EPA published emissions factors, it is highly unlikely that it could violate the applicable requirement. In addition, these types of units are typically operated and vented inside a building, so testing for PM or opacity is not feasible.
Fuel burning equipment with a capacity less than 500,000 Btu/hour, etc.	PM \leq 0.6 or 0.4, depending on year constructed Opacity \leq 20% with exceptions (Minn. R. 7011.0510/515)	For these units, based on the fuels used and EPA published emissions factors, it is highly unlikely that they could violate the applicable requirements.
Emissions from a laboratory, as defined in Minn. R. 7007.1300, subp. 3(G)	PM, variable depending on airflow Opacity \leq 20% (Minn. R. 7011.0710/715)	These are very small, intermittent, bench-top operations that typically do not even have any emissions. It is highly unlikely that they could violate the applicable requirement.
Equipment used for hydraulic or hydrostatic testing	PM, variable depending on airflow Opacity \leq 20% (Minn. R. 7011.0710/715)	While no known emissions estimation method exists for these units, based on general knowledge of how they operate, it is highly unlikely that they could generate particulate matter. In addition, these units would be operated and vented directly into a building, so testing is not feasible.
Brazing, soldering or welding equipment	PM, variable depending on airflow Opacity \leq 20% (Minn. R. 7011.0710/715)	For these units, based on EPA published emissions factors, it is highly unlikely that they could violate the applicable requirement. In addition, these units are typically operated and vented inside a building, so testing for PM or opacity is not feasible.
Blueprint copiers and photographic processes	Opacity \leq 20% (Minn. R. 7011.0105 or 7011.0110))	While no known emissions estimation method exists for these units, based on general knowledge of how they operate, it

Insignificant Activity	General Applicable Emission limit	Discussion
		is highly unlikely that they could generate visible emissions. In addition, these units would be operated and vented directly into an office area, so monitoring or testing is not feasible.
Cleaning operations: alkaline/phosphate cleaners and associated burners	PM, variable depending on airflow Opacity $\leq 20\%$ (Minn. R. 7011.0610+ Minn. R. 7011.0710/715)	For these units, there are some factors available for the burners, but very little information regarding the cleaning operation itself. However, based on general knowledge of how they operate, it is highly unlikely that they could violate the applicable requirement or that testing would be feasible.
Individual units with actual emissions less than 2000 lb/year of certain pollutants	PM, variable depending on airflow Opacity $\leq 20\%$ (with exceptions) (Minn. R. 7011.0715 and Minn. R. 7011.610) or SO ₂ ≤ 0.5 lb/MMBtu Opacity $\leq 20\%$ (Minn. R. 7011.2300)	These are 4 natural gas combustion units, an emergency generator, and a specialty mixing area. For the natural gas units and generator, based on the fuels used and EPA published emissions factors, it is highly unlikely that they could violate the applicable requirement. In addition, all of these units are usually operated and vented inside a building, so testing for PM or opacity is not feasible. The mixing area is not expected to generate particulate matter.
Infrequent use of spray paint equipment for routine housekeeping or plant upkeep activities not associated with primary production processes at the stationary source	PM, variable depending on airflow or process weight rate Opacity $\leq 20\%$ (Minn. R. 7011.0715)	While spray equipment will have the potential to emit particulate matter, these particular activities are those not associated with production, so they would be infrequent and usually occur outdoors. Testing or monitoring is not feasible.
Equipment venting PM/PM ₁₀ inside a building, provided that emissions from the equipment are: a). filtered through an air cleaning system; and	PM, variable depending on airflow Opacity $\leq 20\%$ (Minn. R. 7011.0715)	For these units, it is highly unlikely that they could violate the applicable requirement. In addition, these units are usually vented inside a building, so testing for PM or opacity is not feasible.

Insignificant Activity	General Applicable Emission limit	Discussion
b). vented inside of the building 100% of the time		

Appendix II – Modeling Parameters Used for the MinnErgy Ethanol Facility, Olmstead County, Minnesota

Summary Report of Modeling Input Parameters for Phase I (52MMGAL)

The following tables are a summary of the air dispersion modeling sources and selected parameters. The summary report provides constant emission rates and corresponding stack/source parameters. It **does not** fully document details regarding model control options, emission rates with varying emission scalars, corresponding stack/source parameters, wind speed categories for wind erosion, building profile input program (BPIP) outputs, various output selections (e.g., EVENTFIL, MULTYEAR, PLOTFILE, POSTFILE, MAXIFILE), applicable “INCLUDED” file information, receptor grids, or other special features described in the following EPA modeling user guide:

AERMOD (version 07026): http://www.epa.gov/scram001/dispersion_prefrec.htm#aermod

Note: If any difference exists between summary values in this appendix vs. the hardcopy report vs. the electronic submittal modeled values, the electronic submittal modeled values prevail.

Modeling	Stack	Parameters	(Point	Sources)	for	Phase	I	(52	MMGPY)			
Source ID	Source Description	Easting (X)	Northing (Y)	Base Elevation (ft)	Stack Height (ft)	Temperature * (F)	Exit Velocity (fps)	Stack Diameter (ft)	PM10 (lb/hr)	PM10 Annual (tpy)	SO2 (lb/hr)	NOx (tpy)
SV001	Grain Handling Baghouse	1837778	15979464	1286.15	135	Ambient	61.45	3.67	1.67	7.32	----	----
SV002	Hammermilling Baghouse	1837665	15979444	1286.35	135	Ambient	59.13	3.17	1.2	5.26	----	----
SV003	Fermentation Scrubber	1837409	15979606	1289.63	75	Ambient	31.83	2	----	----	----	----
SV004	TO/HRSG Stack	1837178	15979275	1291.96	125	250	64.84	6	6.55	28.68	11.32	92.64
SV005	DDGS Cooling Cyclone	1837634	15979426	1286.68	135	Ambient	66.02	3	2.14	9.39	----	----
SV006	DDGS Handling Baghouse	1837721	15979501	1285.43	40	Ambient	58.13	1.17	0.16	0.7	----	----
SV007	Ethanol Loadout Flare	1837646	15979035	1288.39	25	800	8.49	4	0.03	0.01	1.32	
SV008	Emergency Fire Pump	1837242	15978939	1291.8	8	800	590.78	0.25	0.64	0.03	0.59	0.45
SV009	Biomethanator Flare	1837214	15979342	1291.8	34	800	0.03	1	----	----	----	----
SV010	190-Proof Shift Tank	1837602	15978824	1288.55	36	Ambient	0.03	1	----	----	----	----
SV011	200-Proof Shift Tank	1837602	15978784	1288.55	36	Ambient	0.03	1	----	----	----	----
SV012	Denatured Ethanol Storage Tank	1837512	15978814	1289.01	48	Ambient	0.03	1	----	----	----	----
SV013	Denatured Ethanol Storage Tank	1837511	15978725	1289.21	48	Ambient	0.03	1	----	----	----	----
SV014	Denaturant Tank	1837600	15978719	1288.68	36	Ambient	23.67	22	0.11	0.48	----	----
FS005A	Cooling Tower Cell #1	1837406	15978991	1290.29	40	Ambient	23.67	22	0.11	0.48	----	----
FS005B	Cooling Tower Cell #2	1837431	15978991	1290.06	40	Ambient	23.67	22	0.11	0.48	----	----

FS005C	Cooling Tower Cell #3	1837461	15978991	1289.73	40	Ambient	23.67	22	0.11	0.48	----	----
FS005D	Cooling Tower Cell #4	1837486	15978991	1289.47	40	Ambient	16.98	2	----	----	----	----
*Ambient	temperature	is	modeled	as	-1	degree	Kelvin					
Modeling	Stack	Parameters	(Volume	Sources)	for	Phase	I	(52	MMGPY)			
Source ID	Source Description	Easting (X)	Northing (Y)	Base Elevation (ft)	Release Height (ft)	Horizontal Dimension (ft)	Vertical Dimension(ft)	PM10 (lb/hr)	PM10 (g/s)	PM10 Annual (lb/hr)	PM10 Annual (g/s)	
FS002/3A	Grain Handling and DDGS Loudout Fugitives (truck)	1837751	15979413	1286.29	7.5	10.7	6.98	2.29E-02	2.88E-03	1.83E-02	2.30E-03	
FS002/3B	Grain Handling and DDGS Loudout Fugitives (truck)	1837753	15979519	1285.33	7.5	10.7	6.98	2.29E-02	2.88E-03	1.83E-02	2.30E-03	
FS002/3C	Grain Handling and DDGS Loudout Fugitives (rail)	1837786	15979413	1286.68	7.5	5.35	6.98	1.63E-02	2.06E-03	0.00E+00	0.00E+00	
FS002/3D	Grain Handling and DDGS Loudout Fugitives (rail)	1837787	15979519	1285.79	7.5	5.35	6.98	1.63E-02	2.06E-03	0.00E+00	0.00E+00	
FS007	DDGS Storage Building Fugitives	1837706	15979710	1284.51	6.99	2.79	6.5	2.00E-03	2.52E-04	1.40E-03	1.76E-04	
RDA_0001	Haul Road	1836398	15976588	1282.94	7.64	15.26	7.05	4.33E-03	5.46E-04	3.13E-03	3.95E-04	
RDA_0002	Haul Road	1836398	15976621	1283.14	7.64	15.26	7.05	6.13E-03	7.72E-04	4.43E-03	5.58E-04	
RDA_0003	Haul Road	1836398	15976654	1283.3	7.64	15.26	7.05	6.13E-03	7.72E-04	4.43E-03	5.58E-04	
RDA_0004	Haul Road	1836398	15976686	1283.5	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0005	Haul Road	1836398	15976719	1283.66	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0006	Haul Road	1836398	15976752	1283.86	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	

RDA_0007	Haul Road	1836398	15976785	1284.06	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0008	Haul Road	1836398	15976818	1284.35	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0009	Haul Road	1836398	15976850	1284.65	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0010	Haul Road	1836398	15976883	1284.91	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0011	Haul Road	1836398	15976916	1285.14	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0012	Haul Road	1836398	15976949	1285.33	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0013	Haul Road	1836398	15976982	1285.56	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0014	Haul Road	1836398	15977014	1285.83	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0015	Haul Road	1836398	15977047	1286.09	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0016	Haul Road	1836398	15977080	1286.35	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0017	Haul Road	1836398	15977113	1286.68	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0018	Haul Road	1836398	15977146	1286.98	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0019	Haul Road	1836398	15977178	1287.27	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0020	Haul Road	1836398	15977211	1287.47	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0021	Haul Road	1836398	15977244	1287.63	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0022	Haul Road	1836398	15977277	1287.86	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0023	Haul Road	1836375	15977297	1287.63	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0024	Haul Road	1836347	15977314	1287.17	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0025	Haul Road	1836319	15977331	1286.55	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0026	Haul Road	1836291	15977349	1285.76	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0027	Haul Road	1836265	15977368	1284.97	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0028	Haul Road	1836239	15977388	1284.58	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0029	Haul Road	1836213	15977409	1284.15	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0030	Haul Road	1836189	15977430	1283.69	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0031	Haul Road	1836167	15977455	1283.3	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0032	Haul Road	1836145	15977479	1283.1	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0033	Haul Road	1836124	15977504	1282.78	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0034	Haul Road	1836102	15977529	1282.38	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0035	Haul Road	1836080	15977553	1281.99	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0036	Haul Road	1836062	15977581	1281.79	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0037	Haul Road	1836044	15977608	1281.69	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0038	Haul Road	1836026	15977636	1281.56	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0039	Haul Road	1836009	15977663	1281.4	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0040	Haul Road	1835993	15977692	1280.97	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0041	Haul Road	1835981	15977722	1280.58	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0042	Haul Road	1835969	15977753	1280.25	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0043	Haul Road	1835957	15977784	1279.99	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	

RDA_0044	Haul Road	1835945	15977814	1279.76	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0045	Haul Road	1835933	15977845	1279.53	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0046	Haul Road	1835927	15977877	1279.49	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0047	Haul Road	1835920	15977909	1279.66	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0048	Haul Road	1835913	15977941	1279.86	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0049	Haul Road	1835907	15977973	1279.99	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0050	Haul Road	1835901	15978005	1279.99	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0051	Haul Road	1835900	15978038	1279.99	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0052	Haul Road	1835898	15978071	1280.02	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0053	Haul Road	1835897	15978104	1280.09	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0054	Haul Road	1835896	15978137	1280.15	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0055	Haul Road	1835895	15978169	1280.28	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0056	Haul Road	1835896	15978202	1280.54	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0057	Haul Road	1835896	15978235	1280.81	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0058	Haul Road	1835897	15978268	1281.04	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0059	Haul Road	1835897	15978301	1281.2	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0060	Haul Road	1835898	15978333	1281.36	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0061	Haul Road	1835898	15978366	1282.05	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0062	Haul Road	1835899	15978399	1283.56	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0063	Haul Road	1835899	15978432	1285.07	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0064	Haul Road	1835900	15978465	1286.35	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0065	Haul Road	1835900	15978497	1287.37	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0066	Haul Road	1835901	15978530	1288.42	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0067	Haul Road	1835901	15978563	1289.24	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0068	Haul Road	1835902	15978596	1289.83	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0069	Haul Road	1835903	15978629	1290.39	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0070	Haul Road	1835903	15978661	1291.01	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0071	Haul Road	1835904	15978694	1291.73	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0072	Haul Road	1835904	15978727	1292.45	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0073	Haul Road	1835905	15978760	1293.21	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0074	Haul Road	1835905	15978793	1294	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0075	Haul Road	1835906	15978825	1294.78	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0076	Haul Road	1835906	15978858	1295.64	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0077	Haul Road	1835907	15978891	1296.56	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0078	Haul Road	1835907	15978924	1297.44	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0079	Haul Road	1835908	15978957	1298.23	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0080	Haul Road	1835908	15978989	1298.75	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	

RDA_0081	Haul Road	1835909	15979022	1299.31	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0082	Haul Road	1835909	15979055	1299.7	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0083	Haul Road	1835910	15979088	1299.8	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0084	Haul Road	1835911	15979121	1299.9	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0085	Haul Road	1835911	15979153	1300.1	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0086	Haul Road	1835912	15979186	1300.39	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0087	Haul Road	1835912	15979219	1300.69	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0088	Haul Road	1835913	15979252	1300.82	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0089	Haul Road	1835913	15979285	1300.75	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0090	Haul Road	1835914	15979317	1300.66	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0091	Haul Road	1835914	15979350	1300.52	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0092	Haul Road	1835915	15979383	1300.3	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0093	Haul Road	1835915	15979416	1300.07	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0094	Haul Road	1835916	15979449	1299.7	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0095	Haul Road	1835916	15979481	1299.11	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0096	Haul Road	1835917	15979514	1298.52	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0097	Haul Road	1835917	15979547	1297.87	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0098	Haul Road	1835918	15979580	1297.11	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0099	Haul Road	1835919	15979613	1296.33	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0100	Haul Road	1835919	15979646	1295.57	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0101	Haul Road	1835920	15979678	1294.78	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0102	Haul Road	1835920	15979711	1293.96	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0103	Haul Road	1835921	15979744	1293.34	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0104	Haul Road	1835921	15979777	1292.98	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0105	Haul Road	1835922	15979810	1292.62	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0106	Haul Road	1835922	15979842	1292.32	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0107	Haul Road	1835923	15979875	1292.16	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0108	Haul Road	1835923	15979908	1291.96	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0109	Haul Road	1835924	15979941	1291.77	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0110	Haul Road	1835924	15979974	1291.47	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0111	Haul Road	1835925	15980006	1291.17	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0112	Haul Road	1835925	15980039	1290.91	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0113	Haul Road	1835926	15980072	1290.62	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0114	Haul Road	1835927	15980105	1290.35	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0115	Haul Road	1835927	15980138	1289.93	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0116	Haul Road	1835928	15980170	1289.24	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0117	Haul Road	1835928	15980203	1288.55	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	

RDA_0118	Haul Road	1835929	15980236	1287.53	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0119	Haul Road	1835932	15980269	1285.99	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0120	Haul Road	1835936	15980301	1284.42	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0121	Haul Road	1835944	15980333	1282.84	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0122	Haul Road	1835955	15980364	1281.53	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0123	Haul Road	1835974	15980390	1280.25	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0124	Haul Road	1835995	15980415	1279.49	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0125	Haul Road	1836019	15980437	1279.07	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0126	Haul Road	1836047	15980453	1278.77	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0127	Haul Road	1836076	15980469	1278.54	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0128	Haul Road	1836107	15980479	1278.61	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0129	Haul Road	1836139	15980484	1278.74	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0130	Haul Road	1836172	15980489	1278.87	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0131	Haul Road	1836204	15980490	1279.4	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0132	Haul Road	1836237	15980490	1279.89	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0133	Haul Road	1836270	15980490	1280.41	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0134	Haul Road	1836303	15980490	1280.77	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0135	Haul Road	1836336	15980490	1281.14	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0136	Haul Road	1836368	15980489	1281.5	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0137	Haul Road	1836401	15980489	1281.53	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0138	Haul Road	1836434	15980489	1281.56	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0139	Haul Road	1836467	15980489	1281.59	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0140	Haul Road	1836500	15980489	1281.69	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0141	Haul Road	1836532	15980488	1281.82	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0142	Haul Road	1836565	15980488	1281.92	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0143	Haul Road	1836598	15980488	1282.09	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0144	Haul Road	1836631	15980488	1282.22	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0145	Haul Road	1836664	15980488	1282.35	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0146	Haul Road	1836696	15980487	1282.58	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0147	Haul Road	1836729	15980487	1282.81	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0148	Haul Road	1836762	15980487	1283.01	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0149	Haul Road	1836795	15980487	1283.17	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0150	Haul Road	1836828	15980487	1283.33	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0151	Haul Road	1836860	15980486	1283.46	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0152	Haul Road	1836893	15980486	1283.56	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0153	Haul Road	1836926	15980486	1283.69	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0154	Haul Road	1836959	15980486	1283.79	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	

RDA_0155	Haul Road	1836991	15980484	1283.86	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0156	Haul Road	1837020	15980469	1284.06	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0157	Haul Road	1837050	15980454	1284.32	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0158	Haul Road	1837077	15980436	1284.55	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0159	Haul Road	1837099	15980412	1284.88	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0160	Haul Road	1837121	15980387	1285.2	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0161	Haul Road	1837140	15980361	1285.56	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0162	Haul Road	1837147	15980329	1285.99	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0163	Haul Road	1837154	15980297	1286.48	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0164	Haul Road	1837156	15980265	1287.04	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDA_0165	Haul Road	1837155	15980232	1287.57	7.64	15.26	7.05	7.51E-03	9.46E-04	5.43E-03	6.84E-04	
RDB_0001	Haul Road	1837154	15980190	1288.39	7.64	15.26	7.05	6.48E-03	8.17E-04	4.70E-03	5.92E-04	
RDB_0002	Haul Road	1837154	15980157	1289.04	7.64	15.26	7.05	6.48E-03	8.17E-04	4.70E-03	5.92E-04	
RDB_0003	Haul Road	1837154	15980125	1289.67	7.64	15.26	7.05	6.48E-03	8.17E-04	4.70E-03	5.92E-04	
RDB_0004	Haul Road	1837154	15980092	1289.67	7.64	15.26	7.05	6.48E-03	8.17E-04	4.70E-03	5.92E-04	
RDB_0005	Haul Road	1837153	15980059	1289.7	7.64	15.26	7.05	6.48E-03	8.17E-04	4.70E-03	5.92E-04	
RDB_0006	Haul Road	1837153	15980026	1289.7	7.64	15.26	7.05	6.48E-03	8.17E-04	4.70E-03	5.92E-04	
RDB_0007	Haul Road	1837153	15979993	1289.8	7.64	15.26	7.05	6.48E-03	8.17E-04	4.70E-03	5.92E-04	
RDB_0008	Haul Road	1837153	15979961	1289.93	7.64	15.26	7.05	6.48E-03	8.17E-04	4.70E-03	5.92E-04	
RDB_0009	Haul Road	1837153	15979928	1290.03	7.64	15.26	7.05	6.48E-03	8.17E-04	4.70E-03	5.92E-04	
RDB_0010	Haul Road	1837153	15979895	1290.12	7.64	15.26	7.05	6.48E-03	8.17E-04	4.70E-03	5.92E-04	
RDB_0011	Haul Road	1837152	15979862	1290.22	7.64	15.26	7.05	6.48E-03	8.17E-04	4.70E-03	5.92E-04	
RDB_0012	Haul Road	1837152	15979829	1290.35	7.64	15.26	7.05	6.48E-03	8.17E-04	4.70E-03	5.92E-04	
RDC_0001	Haul Road	1837151	15979795	1290.35	7.64	15.26	7.05	4.32E-03	5.44E-04	3.13E-03	3.95E-04	
RDC_0002	Haul Road	1837151	15979762	1290.35	7.64	15.26	7.05	4.32E-03	5.44E-04	3.13E-03	3.95E-04	
RDC_0003	Haul Road	1837150	15979729	1290.35	7.64	15.26	7.05	4.32E-03	5.44E-04	3.13E-03	3.95E-04	
RDC_0004	Haul Road	1837150	15979697	1290.78	7.64	15.26	7.05	4.32E-03	5.44E-04	3.13E-03	3.95E-04	
RDC_0005	Haul Road	1837149	15979664	1291.17	7.64	15.26	7.05	4.32E-03	5.44E-04	3.13E-03	3.95E-04	
RDC_0006	Haul Road	1837149	15979631	1291.57	7.64	15.26	7.05	4.32E-03	5.44E-04	3.13E-03	3.95E-04	
RDC_0007	Haul Road	1837148	15979598	1291.6	7.64	15.26	7.05	4.32E-03	5.44E-04	3.13E-03	3.95E-04	
RDC_0008	Haul Road	1837148	15979565	1291.63	7.64	15.26	7.05	4.32E-03	5.44E-04	3.13E-03	3.95E-04	
RDC_0009	Haul Road	1837147	15979533	1291.67	7.64	15.26	7.05	4.32E-03	5.44E-04	3.13E-03	3.95E-04	
RDC_0010	Haul Road	1837147	15979500	1291.8	7.64	15.26	7.05	4.32E-03	5.44E-04	3.13E-03	3.95E-04	
RDC_0011	Haul Road	1837146	15979467	1291.9	7.64	15.26	7.05	4.32E-03	5.44E-04	3.13E-03	3.95E-04	
RDC_0012	Haul Road	1837146	15979434	1291.99	7.64	15.26	7.05	4.32E-03	5.44E-04	3.13E-03	3.95E-04	
RDC_0013	Haul Road	1837145	15979401	1292.03	7.64	15.26	7.05	4.32E-03	5.44E-04	3.13E-03	3.95E-04	
RDC_0014	Haul Road	1837145	15979369	1292.06	7.64	15.26	7.05	4.32E-03	5.44E-04	3.13E-03	3.95E-04	

RDC_0015	Haul Road	1837144	15979336	1292.06	7.64	15.26	7.05	4.32E-03	5.44E-04	3.13E-03	3.95E-04	
RDC_0016	Haul Road	1837144	15979303	1292.09	7.64	15.26	7.05	4.32E-03	5.44E-04	3.13E-03	3.95E-04	
RDC_0017	Haul Road	1837143	15979270	1292.09	7.64	15.26	7.05	4.32E-03	5.44E-04	3.13E-03	3.95E-04	
RDC_0018	Haul Road	1837143	15979237	1292.13	7.64	15.26	7.05	4.32E-03	5.44E-04	3.13E-03	3.95E-04	
RDC_0019	Haul Road	1837142	15979204	1292.32	7.64	15.26	7.05	4.32E-03	5.44E-04	3.13E-03	3.95E-04	
RDC_0020	Haul Road	1837142	15979172	1292.52	7.64	15.26	7.05	4.32E-03	5.44E-04	3.13E-03	3.95E-04	
RDC_0021	Haul Road	1837141	15979139	1292.72	7.64	15.26	7.05	4.32E-03	5.44E-04	3.13E-03	3.95E-04	
RDC_0022	Haul Road	1837141	15979106	1292.72	7.64	15.26	7.05	4.32E-03	5.44E-04	3.13E-03	3.95E-04	
RDC_0023	Haul Road	1837168	15979101	1292.55	7.64	15.26	7.05	4.32E-03	5.44E-04	3.13E-03	3.95E-04	
RDC_0024	Haul Road	1837201	15979101	1292.36	7.64	15.26	7.05	4.32E-03	5.44E-04	3.13E-03	3.95E-04	
RDC_0025	Haul Road	1837234	15979101	1292.13	7.64	15.26	7.05	4.32E-03	5.44E-04	3.13E-03	3.95E-04	
RDC_0026	Haul Road	1837267	15979101	1291.9	7.64	15.26	7.05	4.32E-03	5.44E-04	3.13E-03	3.95E-04	
RDC_0027	Haul Road	1837300	15979101	1291.7	7.64	15.26	7.05	4.32E-03	5.44E-04	3.13E-03	3.95E-04	
RDC_0028	Haul Road	1837332	15979101	1291.47	7.64	15.26	7.05	4.32E-03	5.44E-04	3.13E-03	3.95E-04	
RDC_0029	Haul Road	1837365	15979101	1291.17	7.64	15.26	7.05	4.32E-03	5.44E-04	3.13E-03	3.95E-04	
RDC_0030	Haul Road	1837398	15979101	1290.75	7.64	15.26	7.05	4.32E-03	5.44E-04	3.13E-03	3.95E-04	
RDD_0001	Haul Road	1837430	15979098	1290.32	7.64	15.26	7.05	4.68E-03	5.89E-04	3.39E-03	4.28E-04	
RDD_0002	Haul Road	1837462	15979098	1289.86	7.64	15.26	7.05	4.68E-03	5.89E-04	3.39E-03	4.28E-04	
RDD_0003	Haul Road	1837495	15979099	1289.34	7.64	15.26	7.05	4.68E-03	5.89E-04	3.39E-03	4.28E-04	
RDD_0004	Haul Road	1837528	15979099	1288.85	7.64	15.26	7.05	4.68E-03	5.89E-04	3.39E-03	4.28E-04	
RDE_0001	Haul Road	1837563	15979099	1288.45	7.64	15.26	7.05	4.09E-03	5.15E-04	2.97E-03	3.75E-04	
RDE_0002	Haul Road	1837596	15979099	1288.29	7.64	15.26	7.05	4.09E-03	5.15E-04	2.97E-03	3.75E-04	
RDE_0003	Haul Road	1837629	15979099	1288.09	7.64	15.26	7.05	4.09E-03	5.15E-04	2.97E-03	3.75E-04	
RDE_0004	Haul Road	1837661	15979099	1287.99	7.64	15.26	7.05	4.09E-03	5.15E-04	2.97E-03	3.75E-04	
RDE_0005	Haul Road	1837694	15979099	1287.99	7.64	15.26	7.05	4.09E-03	5.15E-04	2.97E-03	3.75E-04	
RDE_0006	Haul Road	1837725	15979107	1287.3	7.64	15.26	7.05	4.09E-03	5.15E-04	2.97E-03	3.75E-04	
RDE_0007	Haul Road	1837746	15979131	1287.14	7.64	15.26	7.05	7.46E-03	9.40E-04	5.41E-03	6.81E-04	
RDE_0008	Haul Road	1837750	15979164	1287.04	7.64	15.26	7.05	7.46E-03	9.40E-04	5.41E-03	6.81E-04	
RDE_0009	Haul Road	1837751	15979196	1286.98	7.64	15.26	7.05	7.46E-03	9.40E-04	5.41E-03	6.81E-04	
RDE_0010	Haul Road	1837752	15979229	1286.88	7.64	15.26	7.05	7.46E-03	9.40E-04	5.41E-03	6.81E-04	
RDE_0011	Haul Road	1837753	15979262	1286.84	7.64	15.26	7.05	7.46E-03	9.40E-04	5.41E-03	6.81E-04	
RDE_0012	Haul Road	1837754	15979295	1286.84	7.64	15.26	7.05	7.46E-03	9.40E-04	5.41E-03	6.81E-04	
RDE_0013	Haul Road	1837754	15979328	1286.84	7.64	15.26	7.05	7.46E-03	9.40E-04	5.41E-03	6.81E-04	
RDE_0014	Haul Road	1837755	15979360	1286.71	7.64	15.26	7.05	1.18E-02	1.48E-03	8.51E-03	1.07E-03	
RDE_0015	Haul Road	1837756	15979393	1286.48	7.64	15.26	7.05	1.18E-02	1.48E-03	8.51E-03	1.07E-03	
RDE_0016	Haul Road	1837757	15979426	1286.25	7.64	15.26	7.05	1.31E-02	1.65E-03	9.46E-03	1.19E-03	
RDF_0001	Haul Road	1837758	15979467	1285.93	7.64	15.26	7.05	2.88E-03	3.63E-04	2.08E-03	2.62E-04	

RDF_0002	Haul Road	1837758	15979500	1285.6	7.64	15.26	7.05	6.44E-03	8.12E-04	4.64E-03	5.85E-04	
RDF_0003	Haul Road	1837759	15979532	1285.3	7.64	15.26	7.05	5.77E-03	7.28E-04	4.18E-03	5.26E-04	
RDF_0004	Haul Road	1837759	15979565	1285.14	7.64	15.26	7.05	5.77E-03	7.28E-04	4.18E-03	5.26E-04	
RDF_0005	Haul Road	1837759	15979598	1285.01	7.64	15.26	7.05	3.66E-03	4.61E-04	2.65E-03	3.34E-04	
RDF_0006	Haul Road	1837759	15979631	1284.88	7.64	15.26	7.05	3.66E-03	4.61E-04	2.65E-03	3.34E-04	
RDF_0007	Haul Road	1837759	15979664	1284.78	7.64	15.26	7.05	3.66E-03	4.61E-04	2.65E-03	3.34E-04	
RDF_0008	Haul Road	1837760	15979697	1284.65	7.64	15.26	7.05	3.66E-03	4.61E-04	2.65E-03	3.34E-04	
RDF_0009	Haul Road	1837760	15979729	1284.55	7.64	15.26	7.05	3.66E-03	4.61E-04	2.65E-03	3.34E-04	
RDF_0010	Haul Road	1837760	15979762	1284.19	7.64	15.26	7.05	3.66E-03	4.61E-04	2.65E-03	3.34E-04	
RDF_0011	Haul Road	1837745	15979789	1283.89	7.64	15.26	7.05	3.66E-03	4.61E-04	2.65E-03	3.34E-04	
RDF_0012	Haul Road	1837712	15979792	1283.86	7.64	15.26	7.05	2.01E-03	2.53E-04	1.46E-03	1.84E-04	
RDF_0013	Haul Road	1837680	15979792	1285.1	7.64	15.26	7.05	2.01E-03	2.53E-04	1.46E-03	1.84E-04	
RDF_0014	Haul Road	1837647	15979792	1285.14	7.64	15.26	7.05	2.01E-03	2.53E-04	1.46E-03	1.84E-04	
RDF_0015	Haul Road	1837614	15979792	1285.93	7.64	15.26	7.05	2.01E-03	2.53E-04	1.46E-03	1.84E-04	
RDG_0001	Haul Road	1837573	15979792	1286.91	7.64	15.26	7.05	2.51E-03	3.16E-04	1.82E-03	2.29E-04	
RDG_0002	Haul Road	1837540	15979792	1287.6	7.64	15.26	7.05	2.51E-03	3.16E-04	1.82E-03	2.29E-04	
RDG_0003	Haul Road	1837507	15979792	1288.02	7.64	15.26	7.05	2.51E-03	3.16E-04	1.82E-03	2.29E-04	
RDG_0004	Haul Road	1837475	15979792	1288.45	7.64	15.26	7.05	2.51E-03	3.16E-04	1.82E-03	2.29E-04	
RDG_0005	Haul Road	1837442	15979792	1288.88	7.64	15.26	7.05	2.51E-03	3.16E-04	1.82E-03	2.29E-04	
RDG_0006	Haul Road	1837409	15979792	1289.3	7.64	15.26	7.05	2.51E-03	3.16E-04	1.82E-03	2.29E-04	
RDG_0007	Haul Road	1837376	15979792	1289.73	7.64	15.26	7.05	2.51E-03	3.16E-04	1.82E-03	2.29E-04	
RDG_0008	Haul Road	1837343	15979792	1290.09	7.64	15.26	7.05	2.51E-03	3.16E-04	1.82E-03	2.29E-04	
RDG_0009	Haul Road	1837311	15979792	1290.29	7.64	15.26	7.05	2.51E-03	3.16E-04	1.82E-03	2.29E-04	
RDG_0010	Haul Road	1837278	15979792	1290.45	7.64	15.26	7.05	2.51E-03	3.16E-04	1.82E-03	2.29E-04	
RDG_0011	Haul Road	1837245	15979792	1290.58	7.64	15.26	7.05	2.51E-03	3.16E-04	1.82E-03	2.29E-04	
RDG_0012	Haul Road	1837212	15979792	1290.49	7.64	15.26	7.05	2.51E-03	3.16E-04	1.82E-03	2.29E-04	
RDG_0013	Haul Road	1837179	15979792	1290.42	7.64	15.26	7.05	2.51E-03	3.16E-04	1.82E-03	2.29E-04	
RDG_0014	Haul Road	1837152	15979792	1290.35	7.64	15.26	7.05	2.51E-03	3.16E-04	1.82E-03	2.29E-04	
RDH_0001	Haul Road	1837574	15979792	1286.88	7.64	15.26	7.05	4.33E-04	5.46E-05	3.22E-04	4.06E-05	
RDH_0002	Haul Road	1837573	15979759	1286.75	7.64	15.26	7.05	4.33E-04	5.46E-05	3.22E-04	4.06E-05	
RDH_0003	Haul Road	1837573	15979726	1286.61	7.64	15.26	7.05	4.33E-04	5.46E-05	3.22E-04	4.06E-05	
RDH_0004	Haul Road	1837572	15979693	1286.61	7.64	15.26	7.05	4.33E-04	5.46E-05	3.22E-04	4.06E-05	
RDH_0005	Haul Road	1837572	15979660	1286.61	7.64	15.26	7.05	4.33E-04	5.46E-05	3.22E-04	4.06E-05	
RDH_0006	Haul Road	1837571	15979628	1286.65	7.64	15.26	7.05	4.33E-04	5.46E-05	3.22E-04	4.06E-05	
RDH_0007	Haul Road	1837571	15979595	1286.68	7.64	15.26	7.05	4.33E-04	5.46E-05	3.22E-04	4.06E-05	
RDH_0008	Haul Road	1837570	15979562	1286.71	7.64	15.26	7.05	4.33E-04	5.46E-05	3.22E-04	4.06E-05	
RDH_0009	Haul Road	1837569	15979529	1286.78	7.64	15.26	7.05	4.33E-04	5.46E-05	3.22E-04	4.06E-05	

RDH_0010	Haul Road	1837569	15979496	1287.14	7.64	15.26	7.05	4.33E-04	5.46E-05	3.22E-04	4.06E-05	
RDH_0011	Haul Road	1837568	15979464	1287.47	7.64	15.26	7.05	4.33E-04	5.46E-05	3.22E-04	4.06E-05	
RDH_0012	Haul Road	1837568	15979431	1287.76	7.64	15.26	7.05	4.33E-04	5.46E-05	3.22E-04	4.06E-05	
RDH_0013	Haul Road	1837567	15979398	1287.89	7.64	15.26	7.05	4.33E-04	5.46E-05	3.22E-04	4.06E-05	
RDH_0014	Haul Road	1837566	15979365	1288.02	7.64	15.26	7.05	4.33E-04	5.46E-05	3.22E-04	4.06E-05	
RDH_0015	Haul Road	1837566	15979332	1288.12	7.64	15.26	7.05	4.33E-04	5.46E-05	3.22E-04	4.06E-05	
RDH_0016	Haul Road	1837565	15979300	1288.12	7.64	15.26	7.05	4.33E-04	5.46E-05	3.22E-04	4.06E-05	
RDH_0017	Haul Road	1837565	15979267	1288.12	7.64	15.26	7.05	4.33E-04	5.46E-05	3.22E-04	4.06E-05	
RDH_0018	Haul Road	1837564	15979234	1288.16	7.64	15.26	7.05	4.33E-04	5.46E-05	3.22E-04	4.06E-05	
RDH_0019	Haul Road	1837564	15979201	1288.19	7.64	15.26	7.05	4.33E-04	5.46E-05	3.22E-04	4.06E-05	
RDH_0020	Haul Road	1837563	15979168	1288.25	7.64	15.26	7.05	4.33E-04	5.46E-05	3.22E-04	4.06E-05	
RDH_0021	Haul Road	1837562	15979136	1288.32	7.64	15.26	7.05	4.33E-04	5.46E-05	3.22E-04	4.06E-05	
RDH_0022	Haul Road	1837562	15979103	1288.45	7.64	15.26	7.05	4.33E-04	5.46E-05	3.22E-04	4.06E-05	
RDI_0001	Haul Road	1837155	15980190	1288.39	7.64	15.26	7.05	7.65E-05	9.63E-06	5.71E-05	7.19E-06	
RDI_0002	Haul Road	1837188	15980190	1288.09	7.64	15.26	7.05	7.65E-05	9.63E-06	5.71E-05	7.19E-06	
RDI_0003	Haul Road	1837221	15980190	1287.83	7.64	15.26	7.05	7.65E-05	9.63E-06	5.71E-05	7.19E-06	
RDI_0004	Haul Road	1837253	15980190	1287.53	7.64	15.26	7.05	7.65E-05	9.63E-06	5.71E-05	7.19E-06	
RDI_0005	Haul Road	1837284	15980182	1287.4	7.64	15.26	7.05	7.65E-05	9.63E-06	5.71E-05	7.19E-06	
RDI_0006	Haul Road	1837300	15980155	1287.5	7.64	15.26	7.05	7.65E-05	9.63E-06	5.71E-05	7.19E-06	
RDI_0007	Haul Road	1837299	15980123	1287.83	7.64	15.26	7.05	7.65E-05	9.63E-06	5.71E-05	7.19E-06	
RDI_0008	Haul Road	1837299	15980090	1288.25	7.64	15.26	7.05	7.65E-05	9.63E-06	5.71E-05	7.19E-06	
RDI_0009	Haul Road	1837298	15980057	1288.71	7.64	15.26	7.05	7.65E-05	9.63E-06	5.71E-05	7.19E-06	
RDI_0010	Haul Road	1837298	15980024	1289.14	7.64	15.26	7.05	7.65E-05	9.63E-06	5.71E-05	7.19E-06	
RDI_0011	Haul Road	1837297	15979991	1289.4	7.64	15.26	7.05	7.65E-05	9.63E-06	5.71E-05	7.19E-06	
RDI_0012	Haul Road	1837297	15979958	1289.67	7.64	15.26	7.05	7.65E-05	9.63E-06	5.71E-05	7.19E-06	
RDI_0013	Haul Road	1837296	15979926	1289.9	7.64	15.26	7.05	7.65E-05	9.63E-06	5.71E-05	7.19E-06	
RDI_0014	Haul Road	1837296	15979893	1289.99	7.64	15.26	7.05	7.65E-05	9.63E-06	5.71E-05	7.19E-06	
RDI_0015	Haul Road	1837295	15979860	1290.12	7.64	15.26	7.05	7.65E-05	9.63E-06	5.71E-05	7.19E-06	
RDI_0016	Haul Road	1837295	15979827	1290.22	7.64	15.26	7.05	7.65E-05	9.63E-06	5.71E-05	7.19E-06	
RDI_0017	Haul Road	1837294	15979794	1290.35	7.64	15.26	7.05	7.65E-05	9.63E-06	5.71E-05	7.19E-06	
*FS002/3A and FS002/3B represent the grain receiving (truck) and DDGS loadout operations. These wide grain receiving building.												
The truck overhead doors are assumed to be 15 feet 15/2), horizontal dimension is 10.7 feet (i.e.,46/4.3), and vertical dimension is 6.98 feet												
**FS002/3C and FS002/3D represent the grain receiving by rail.												
These emissions will escape through occupy 3-Jan of the width of the 69-foot wide building (23 feet). Therefore, release feet (i.e.,15/2.15).												

Appendix III

Best Management Practices

for

Odor Prevention

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General Comments regarding Odors

This best management practices (BMP) odor prevention plan is intended to meet the goal of eliminating or at least minimizing community complaints about odors. The facility is intended to operate continuously (24 hours per day) and is expected to produce minimal odor during normal operations. Any possible exposure to malodorous emissions beyond the property boundaries, considering the intensity, frequency, and duration, will be a function of the prevailing weather conditions such as temperature, wind direction, wind speed, and humidity. These odor characteristics may also be affected by unpredicted process upsets. In the event that odors from the facility occur during normal operations, the response portion of this plan will be implemented once the odor complaint is validated by the local governing unit (LGU) or MPCA. This plan describes the response the facility will take if odor complaints, validated by the LGU or MPCA, occur. The plan also describes the potential odor sources and the odor abatement best management practices and controls in place to minimize or eliminate the possibility of odors at all times.

I. Possible Sources of Odors

Fermentation. Fermentation of sugar produces ethanol but also other organic compounds and carbon dioxide (CO₂) as a by-products. The vents of the fermenters are tied into the inlet of one direct-contact water scrubber. The gas coming off the fermenters (and other vessels vented to the same scrubber) flows up through a bed of packing, usually a plastic, glass or ceramic material. Water flows down through the bed. A continuous blow-down of this water flows back into the process stream. CO₂ and other non-condensing gases leaving the scrubber are vented to the atmosphere. The water absorbs a high percentage of the organic compounds (VOC) which are the primary source of odors at this type of facility.

Distillation/Dehydration. The beer resulting from fermentation runs through a continuous distillation system to remove the ethanol. The vapor outlet of the distillation column is piped directly to condensers that discharge liquid ethanol to the 190-proof reservoir. Any CO₂ and other non-condensable gases, which are contained in the beer, end up in the 190-proof reservoir and must be expelled to maintain the proper pressure/vacuum in the distillation system. The exhaust gases are directed to a scrubber or thermal oxidizer prior to venting to the atmosphere. Thermal oxidizers destroy VOC by combustion, eliminating most of the odor from this part of the plant.

Dried Distillers Grain Drying and Handling. Distillers grain is dried in a rotary dryer. The air and solids exiting the dryer are conveyed to cyclones used to separate and cool the dried grain. Exhaust gases not recycled to the dryer inlet are vented to the thermal oxidizer to destroy VOC and odor.

Ethanol Storage Tanks. The product is pumped from the 190-proof tank to the 200-proof shift tank after the water has been removed from the 190-proof ethanol by the mole sieve process. Denaturant (usually unleaded gasoline or natural gasoline to make the ethanol unsuitable for consumption) is added. All storage tanks will be located above ground in a containment area. Each tank (other than the small fuel additive tank) has a floating roof to reduce evaporative loss from the tank, which in turn reduces odors.

Fugitive & Miscellaneous Emissions. Potential fugitive emissions have been considered for all applicable processes, including but not limited to grain handling and milling, feed transfers, piping components, product loading, and on-site roads. Additional emissions (summarized here as miscellaneous) have also been quantified in the air permit application package. Such emissions include the cooling tower, emergency fire water pump, and flare.

Wet Cake (Distillers Grains) – Wet cake will be sold and shipped as quickly as possible to avoid the potential for odor impacts near the facility. Wet cake will not be stored for more than 72 hours. Wetcake is a fast-turnaround product that is not typically produced unless there is an immediate plan to ship it out to a customer.

Other emissions sources – All other emission sources planned for the facility were evaluated as having insignificant odor potential. These include: corn unloading and DDGS loading, corn milling, DDGS cooling, maintenance activities, warehousing and transport engines, fire control equipment, office and janitorial activities, heating, small engine fuel storage, water for boilers, and sewer plumbing.

II. Operation and Maintenance Requirements

Daily operational checks as well as monthly and quarterly maintenance schedules will be performed and recorded based on the air operating permit requirements and manufacturer specifications. These schedules will occur according to the Operation and Maintenance plan and Best Management Practices as summarized below. The following items must be maintained for each unit:

DDGS Dryer System and Thermal Oxidizer

- Complete inventory of replacement parts on site
- Review burner control system and the mechanical components of the conveyors monthly.
- Check of fans, conveyors, drive motors, and centrifuges daily.
- Record status of drive motors, conveyors, and fans daily.

Wet Scrubbers

- Complete inventory of replacement parts on site
- Check the circulation pump operation and packing monthly.
- Check scrubber level, differential pressure, and water flow rate daily.
- Record water pump status, liquid levels, differential pressure, and water flow rate daily.

III. Equipment Failure and Response

In the event of a process or odor control equipment breakdown, the facility will comply with MN Rules 7019.1000 and will use this document as the “compliance document”. The following steps will be taken in the event of process or odor control equipment failure:

DDGS Dryer System If the dryer system is not operating, the minimum operating conditions for this process will be production of wet cake limited by livestock feed markets.

Wet cake (stillage)

The facility is allowed to store wet cake for no more than 3 days.

Distillers wet or a dry grain is a valuable co-product. It would not be economical to produce distillers’ grains without a market or sale of the product. Spoiled product is not suitable for sale to DDGS customers, so it must be avoided.

Fermentation Vessels Failure or malfunction of the CO2 scrubber – If the scrubber breaks down, feed to the fermentation must stop until the scrubber is operating.

IV. Notification

The commissioner must be notified within 24 hours of the breakdown of more than one hour as specified in MN Rules 7019.1000. The plant electronic or written logs will serve as the record of compliance. Such records may include work orders or revised procedures for maintenance of odor abatement operations.

TECHNICAL SUPPORT DOCUMENT
For
AIR EMISSION PERMIT NO. 10901021-001
State synthetic minor permit (Part 70 and PSD) for a new source

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

1. General Information

1.1. Applicant and Stationary Source Location:

Applicant/Address	Stationary Source/Address (SIC Code: 2869)
MinnErgy, LLC P.O. Box 186 Winona, Minnesota 55987	SE corner of intersection of 19 th St. and 110 th Ave. Eyota Olmsted County
Contact: Daniel H. Arnold Phone: 507-858-0022	

1.2. Description of the Permit Action

MinnErgy, LLC proposes to construct a fuel ethanol plant permitted to produce 52,250,000 gallons per year of 200 proof (undenatured) ethanol. Corn will be the feedstock. Byproducts include syrup, wet distillers grain, and dried distillers grain.

Corn is received at a truck dump pit and conveyed to storage until needed. The emissions from corn receiving, handling, and storage consist of particulate matter (PM and PM₁₀) and are controlled by a baghouse (CE 001, SV 001). The corn is cleaned and then milled in a hammermill. Cleaning and milling also generate PM and PM₁₀, which are controlled by a baghouse (CE 002, SV 002).

Milled corn then enters the fermentation and distillation process, where enzymes and yeast are introduced, and the mixture is cooked, fermented, and distilled. Volatile organic compound emissions are produced, which are controlled by a scrubber (CE 003, SV 003). Fugitive VOC emissions resulting from leaks in fittings, pumps, valves, etc. are exhausted out the ventilation system of the fermentation/distillation building.

Heat is provided to the fermentation and distillation operations via steam from a natural gas/propane fired thermal oxidizer with a heat recovery steam generation unit (TO/HRSG, SV 004).

Corn materials left over from the fermentation/distillation are dried to form distillers dried grains with solubles (DDGS) which is sold and used as livestock feed. The dryer combusts natural gas and/or propane for heat. The drying process generates PM, PM₁₀, VOC, CO and NO_x emissions, (CE 004, CE 005, CE 006, SV 004). DDGS is transported to a storage building by a conveyor. It enters a cooling or “separating” cyclone, which separates air from DDGS and vents the air into the stack.

PM and PM₁₀ are generated by the handling and loadout of DDGS. A baghouse collects and controls emissions from the loadout pit, elevator leg, and loadout spout (CE 005, CE 006, SV 007, SV 008). Fugitive PM and PM₁₀ emissions from dropping the DDGS into the building from the conveyor are exhausted through the building ventilation.

1.5. Facility Emissions:

Table 1. Total Facility Potential to Emit Summary

	PM tpy	PM ₁₀ tpy	SO ₂ tpy	NO _x tpy	CO tpy	VOC tpy	Single HAP tpy	All HAPs tpy
Total Facility Limited Potential Emissions	74.9	57.6	49.6	94.4	94.7	90.3	9.0	11.9

Table 2. Facility Classification

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

2. Regulatory and/or Statutory Basis

Prevention of Significant Deterioration (PSD)

MinnErgy has proposed limits so the potential-to-emit for each relevant pollutant is less than the PSD major source threshold of 250 tons per year. Thus, PSD does not apply. The proposed limits are identified as “Title I Condition: limit to avoid classification as a major source...” in the draft permit and Tables following.

Part 70 Permit Program

MinnErgy has proposed limits so the potential-to-emit for each relevant pollutant is less than the Part 70 major source threshold of 100 tons per year. Thus, Part 70 does not apply. The proposed limits are identified as “Title I Condition: limit to avoid classification as a major source...” in the draft permit and Tables following.

New Source Performance Standards (NSPS)

The TO/HRSRG is subject to Subpart Db (fossil-fueled steam generators larger than 100 million Btu/hr). Because it uses only natural gas and propane for fuel, there is no SO₂ or PM limit. There is a NO_x limit.

Ethanol and denaturant storage tanks are subject to Subpart Kb (requires floating roofs in larger tanks), and pipe fittings are subject to Subpart VVa for leak detection and repair.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

The Facility has accepted limits on VOC which effectively limit hazardous air pollutants (HAP) emissions such that it is a non-major source under 40 CFR pt. 63. The VOC limits are found at GP004, SV003, SV004, SV005, SV007, CE003, CE004 and FS004 and are expressed as limits in pounds per hour and limits on operational parameters of air pollution control equipment. Most HAPs emitted from ethanol production are VOC, so VOC limits can effectively limit HAPs in this case. Test data from ethanol plants has confirmed that if total VOC is limited to less than 100 tons per year, if this is achieved by having at least 95 % VOC control on the fermentation and drying processes, and the plant demonstrates compliance with VOC limits, then HAP emissions will be below major source thresholds. Other controls taken into account include the liquid storage tanks and the Leak Detection and Repair program for piping leaks.

Thus, no NESHAPs which apply only to major sources apply. The cooling tower is subject to the cooling tower NESHAP which prohibits use of chromium-containing chemicals to treat the cooling water.

Minnesota State Rules

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

- Minn. R. 7011.1005 Standards of Performance for Bulk Agricultural Commodity Facilities
- Minn. R. 7011.2300 Standards of Performance for Stationary Internal Combustion Engines

Table 3. Regulatory Overview of Facility

EU, GP, or SV	Applicable Regulations	Comments:
FC	Title I Limit to avoid PSD, Part 70, and NESHAPs	Limit on annual production of ethanol, which in turn limits corn received, and limits emissions from corn receiving, tanks, and ethanol loadout
GP 001	40 CFR 60, Subpart Kb	Requirements for floating roof tanks; inspections,

		maintenance, recordkeeping and reporting
SV 001	Title I Limit on PM, PM10 to avoid PSD and Part 70	Grain receiving; hourly limit on PM and PM10 emission
SV 002	Title I Limit on PM, PM10 to avoid PSD and Part 70	Hammermills; hourly limit on PM and PM10 emission
SV 003	Title I Limit on VOC to avoid PSD, Part 70, and NESHAPs	Fermentation; hourly limit on VOC emission
SV 004	Title I Limit on PM, PM10, SO ₂ , NO _x , CO, and VOC to avoid PSD, Part 70, and NESHAPs (VOC limit) 40 CFR 60, Subp. Db	Thermal Oxidizer/Heat Recovery Steam Generator (TO/HRSG); hourly emission limits on PM, SO ₂ , NO _x , CO, and VOC Requirements for NO _x CEM, recordkeeping and reporting; Subpart Db applies due to the TO/HRSG heat input being > 100 MMBtu/hr
SV 005	Title I Limit on PM, PM10, and VOC to avoid PSD, Part 70, and NESHAPs (VOC limit)	DDGS cooler; hourly emission limits on PM, PM10, and VOC
SV 006	Title I Limit on PM, PM10 to avoid PSD and Part 70	DDGS handling; hourly emission limits on PM and PM10
SV 007	Title I conditions to limit on VOC to avoid PSD, Part 70, and NESHAPs	Flare; design, operational, and maintenance requirements to maintain flare destruction efficiency
SV 008	40 CFR 60, Subp. IIII Minn. R. 7011.2300	Diesel engine for fire water pump Opacity limit
EU 041	Title I Operating Condition	Dryer; requirement to shutdown dryer in event of TO breakdown

EU 042	Title I Operating Condition	Dryer; requirement to shutdown dryer in event of TO breakdown
CE 001	Title I limit to avoid PSD and Part 70	Baghouse filter requirements; Title I Conditions for efficiency and supporting permit conditions; State Rules for inspection, operation, maintenance, and corrective actions
CE 002	Title I limit to avoid PSD and Part 70	Baghouse filter requirements; Title I Conditions for efficiency and supporting permit conditions; State Rules for inspection, operation, maintenance, and corrective actions
CE 003	Title I limit to avoid PSD and Part 70	Scrubber requirements; minimum water flowrate and pressure drop range
CE 004	Title I temperature limit	TO/HRSG; a minimum temperature limit is specified to serve as a surrogate for the VOC and CO emission limits
CE 007	Title I limit to avoid PSD and Part 70	Baghouse filter requirements; Title I Conditions for efficiency and supporting permit conditions; State Rules for inspection, operation, maintenance, and corrective actions
CE 008	Title I limit to avoid PSD and Part 70	Baghouse filter requirements; Title I Conditions for efficiency and supporting permit conditions; State Rules for inspection, operation, maintenance, and corrective actions
FS 001	Minn. R. 7011.0150 Minn. R. ch. 7009	Truck traffic; fugitive dust control Additional fugitive dust control requirements to meet the PM ₁₀ NAAQS
FS 004	40 CFR 60 Subpart VV	Piping leak detection and repair requirements
FS 006	Minn. R. 7007.0800, subp. 2	Wetcake storage limited to 72 hours onsite

3. Technical Information

3.1 Ambient Air Impact

MinnErgy has submitted an ambient air impact analysis to demonstrate attainment of the NAAQS and compliance with PSD increment. PSD increment applies since the Minor Source Baseline Date has previously been established by another source, and after that date, new minor sources consume increment.

MinnErgy has also submitted an Air Emissions Risk Analysis (AERA), demonstrating that no unacceptable health risks occur. To verify the assumptions and results in the AERA, MPCA staff will conduct ambient air monitoring.

3.2 Calculations of Potential to Emit

The assumptions and procedures used to calculate PTE are summarized in the following table:

Table 4: PTE discussion

EU, GP, or SV	Pollutants	Comments
FC	All criteria and HAPs	There is no PTE directly associated with this part of the permit. Source-wide PTE is limited by limits set at individual stacks or emission units. The limit on annual ethanol production is used in PTE calculations for emissions from grain receiving (SV001), ethanol/denaturant storage tanks, and ethanol loadout (SV007, EU047).
GP 001	VOC and HAP	Floating roof tank requirements, used in the TANKS program to calculate emissions from ethanol and denaturant storage tanks.
SV 001	PM, PM10	PTE is based on an hourly emission limit calculated from an outlet dust load of 0.005 gr/dscf (based on baghouse control). PTE from uncaptured emissions is based on an assumed capture efficiency of 90 % and AP-42 uncontrolled emission factors.
SV 002	PM, PM10	PTE is based on an hourly emission limit calculated from an outlet dust load of 0.005 gr/dscf (based on baghouse control).
SV 003	VOC	PTE from the fermentation wet scrubber is based on a proposed emission limit of 6.55 lb hr

SV 004	PM, PM ₁₀ , SO ₂ , NO _x , CO, VOC, HAP	PTE for the TO/HRSG is based on proposed hourly emission limits for PM, SO ₂ , NO _x , CO, and VOC
SV 005	PM, PM ₁₀ , VOC	PTE is based on proposed hourly emission limits for PM, SO ₂ , and VOC
SV 006	PM, PM ₁₀	PTE is based on an hourly emission limit calculated from an outlet dust load of 0.005 gr/dscf (based on baghouse control).
SV 007	VOC, HAP, NO _x , CO	PTE is based on 98 % destruction of VOC from truck loading by flaring
SV 008	PM, PM ₁₀ , SO ₂ , NO _x , CO, VOC, HAP	PTE is based on limits in NSPS Subpart IIII for compression ignition engines
EU 041	PM, PM ₁₀ , SO ₂ , NO _x , CO, VOC, HAP	PTE is included in SV004.
EU 042	PM, PM ₁₀ , SO ₂ , NO _x , CO, VOC, HAP	PTE is included in SV004.
CE 004	PM, PM ₁₀ , SO ₂ , NO _x , CO, VOC, HAP	PTE is included in SV004.
FS 001	PM, PM ₁₀	Fugitive emission from truck traffic is estimated using AP-42 methods.
FS 004	VOC	Fugitive VOC from piping leaks is estimated using EPA emission factors
FS 006	VOC	Fugitive VOC from wetcake storage is estimated using test data from another ethanol plant

3.3 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 5 summarizes the periodic monitoring requirements for each subject item in the permit.

Table 5. Periodic Monitoring

Emission Unit or Group	Requirement (basis)	Additional Monitoring	Discussion
FC	Ethanol production \leq 52,500,000 gallons per year Limit to avoid PSD, Part 70, and NESHAP	Daily record of ethanol production / loadout; monthly calculation and record of 12-month rolling sum	
GP 001	Design and maintenance requirements for floating roofs 40 CFR 60 Subpart Kb	Annual inspection through roof hatch; repair; records; reports	Periodic inspections, records, and reporting are specified in Subpart Kb.
SV 001 Grain receiving	PM, PM ₁₀ \leq 1.67 lb/hr Limit to avoid PSD and Part 70	Daily visible emission check for baghouse stack	Daily visible emission check, together with O and M requirements, supports the 99 % collection efficiency to ensure that the limit is met.

Emission Unit or Group	Requirement (basis)	Additional Monitoring	Discussion
SV 002 Hammer-mills	PM, PM ₁₀ ≤ 1.20 lb/hr Limit to avoid PSD and Part 70	Daily visible emission check for baghouse stack	Daily visible emission check, together with O and M requirements, supports the 99 % collection efficiency to ensure that the limit is met.
SV 003 Fermenters	VOC ≤ 6.55 lb/hr Limit to avoid PSD, Part 70 and NESHAP	Under CE 003	
SV 004 TO/HRSG	PM, PM ₁₀ ≤ 4.56 lb/hr Limit to avoid PSD and Part 70	None	Use of only natural gas/propane for fuel ensures that the limit will not be exceeded
	SO ₂ ≤ 7.89 lb/hr Limit to avoid PSD and Part 70	None	Use of only natural gas/propane for fuel ensures that the limit will not be exceeded. SO ₂ is primarily from the dryers.
	NO _x ≤ 21.25 lb/hr PM, Limit to avoid PSD and Part 70	CEM	CEM required because HRSG is subject to 40 CFR 60, Subpart Db
	CO ≤ 14.53 lb/hr Limit to avoid PSD and Part 70	Continuous temperature record	Under CE004, a minimum temperature is specified and continuous temperature recording is required to ensure combustion of most CO

Emission Unit or Group	Requirement (basis)	Additional Monitoring	Discussion
	VOC \leq 3.71 lb/hr Limit to avoid PSD, Part 70 and NESHAP	Continuous temperature record	Under CE004, a minimum temperature is specified and continuous temperature recording is required to ensure combustion of most VOC
SV 005 DDGS cooler	PM, PM ₁₀ \leq 1.20 lb/hr Limit to avoid PSD and Part 70 VOC \leq 1.75 lb/hr Limit to avoid PSD, Part 70 and NESHAP	Daily visible emission check for baghouse stack	Daily visible emission check, together with O and M requirements, supports the 99 % collection efficiency to ensure that the limit is met.
SV 006 DDGS handling	PM, PM ₁₀ \leq 0.16 lb/hr Limit to avoid PSD and Part 70	Daily visible emission check for baghouse stack	Daily visible emission check, together with O and M requirements, supports the 99 % collection efficiency to ensure that the limit is met.
SV 007 Flare	Design and operating requirements	Flame presence is monitored by thermocouple or the equivalent; records required of startups, shutdowns, and malfunctions	
SV 008 Diesel engine	40 CFR 60, Subp. IIII	Hours of operation recorded by nonresettable meter	
EU 041	Vent all emissions to	Design requirement verified by	Dryer, exhausts through the TO (SV004); periodic monitoring is at SV004.

Emission Unit or Group	Requirement (basis)	Additional Monitoring	Discussion
Dryer	CE004; stop feed in event of breakdown of CE004	inspection	
EU 042 Dryer	Vent all emissions to CE004; stop feed in event of breakdown of CE004	Design requirement verified by inspection	Dryer, exhausts through the TO (SV004); periodic monitoring is at SV004.
CE 004 TO/HRSG	Thermal oxidizer		TO; periodic monitoring is described under SV004 for pollutants other than CO and VOC; under CE004 continuous temperature recoding is required to verify that temperature is sufficient to combust most CO and VOC
FS 001	Road dust	Record of monthly inspections and cleaning when needed	Trucks
FS 004	40 CFR 60, Subp. VV	Pumps and valves are monitored monthly initially (then less frequently if no leaks are detected for 3 months); other types of units are subject to design standards (compressors) or are monitored only under specific circumstances (relief valves after a	Periodic monitoring is specified in detail in Subpart VV.

Emission Unit or Group	Requirement (basis)	Additional Monitoring	Discussion
		relief event occurs)	

3.4 Insignificant Activities

MinnErgy, LLC may have operations which are classified as insignificant activities. These are listed in an Appendix to the permit.

The permit is required to include periodic monitoring for all emissions units, including insignificant activities, per EPA guidance. The insignificant activities at this Facility are only subject to the applicable requirements listed in the table following and are unlikely to be able to violate the applicable requirement. The following table documents the justification why no additional periodic monitoring is necessary for the current insignificant activities.

Table 6. Insignificant Activities

Insignificant Activity	General Applicable Emission limit	Discussion
Fuel use: space heaters fueled by, kerosene, natural gas, or propane	PM \leq 0.6 or 0.4 lb/MMBtu, depending on year constructed Opacity \leq 20% with exceptions (Minn. R. 7011.0510/515)	For this unit, based on the fuels used and EPA published emissions factors, it is highly unlikely that it could violate the applicable requirement. In addition, these types of units are typically operated and vented inside a building, so testing for PM or opacity is not feasible.
Fuel burning equipment with a capacity less than 500,000 Btu/hour, etc.	PM \leq 0.6 or 0.4, depending on year constructed Opacity \leq 20% with exceptions (Minn. R. 7011.0510/515)	For these units, based on the fuels used and EPA published emissions factors, it is highly unlikely that they could violate the applicable requirements.
Emissions from a laboratory, as defined in Minn. R. 7007.1300, subp. 3(G)	PM, variable depending on airflow Opacity \leq 20%	These are very small, intermittent, bench-top operations that typically do not even have any emissions. It is highly unlikely that they could violate the applicable

Insignificant Activity	General Applicable Emission limit	Discussion
	(Minn. R. 7011.0710/715)	requirement.
Equipment used for hydraulic or hydrostatic testing	PM, variable depending on airflow Opacity \leq 20% (Minn. R. 7011.0710/715)	While no known emissions estimation method exists for these units, based on general knowledge of how they operate, it is highly unlikely that they could generate particulate matter. In addition, these units would be operated and vented directly into a building, so testing is not feasible.
Brazing, soldering or welding equipment	PM, variable depending on airflow Opacity \leq 20% (Minn. R. 7011.0710/715)	For these units, based on EPA published emissions factors, it is highly unlikely that they could violate the applicable requirement. In addition, these units are typically operated and vented inside a building, so testing for PM or opacity is not feasible.
Blueprint copiers and photographic processes	Opacity \leq 20% (Minn. R. 7011.0105 or 7011.0110))	While no known emissions estimation method exists for these units, based on general knowledge of how they operate, it is highly unlikely that they could generate visible emissions. In addition, these units would be operated and vented directly into an office area, so monitoring or testing is not feasible.
Cleaning operations: alkaline/phosphate cleaners and associated burners	PM, variable depending on airflow Opacity \leq 20% (Minn. R. 7011.0610+ Minn. R. 7011.0710/715)	For these units, there are some factors available for the burners, but very little information regarding the cleaning operation itself. However, based on general knowledge of how they operate, it is highly unlikely that they could violate the applicable requirement or that testing would be feasible.
Individual units with actual emissions less than 2000 lb/year of certain pollutants	PM, variable depending on airflow Opacity \leq 20% (with exceptions) (Minn. R. 7011.0715 and Minn. R.	These are 4 natural gas combustion units, an emergency generator, and a specialty mixing area. For the natural gas units and generator, based on the fuels used and EPA published emissions factors, it is highly unlikely that they could violate the applicable requirement. In addition, all of

Insignificant Activity	General Applicable Emission limit	Discussion
	7011.610) or $\text{SO}_2 \leq 0.5 \text{ lb/MMBtu}$ $\text{Opacity} \leq 20\%$ (Minn. R. 7011.2300)	these units are operated and vented inside a building, so testing for PM or opacity is not feasible. The mixing area is not expected to generate particulate matter.
Infrequent use of spray paint equipment for routine housekeeping or plant upkeep activities not associated with primary production processes at the stationary source	PM, variable depending on airflow or process weight rate $\text{Opacity} \leq 20\%$ (Minn. R. 7011.0715)	While spray equipment will have the potential to emit particulate matter, these particular activities are those not associated with production, so they would be infrequent and usually occur outdoors. Testing or monitoring is not feasible.
Equipment venting PM/PM ₁₀ inside a building, provided that emissions from the equipment are: a). filtered through an air cleaning system; and b). vented inside of the building 100% of the time	PM, variable depending on airflow $\text{Opacity} \leq 20\%$ (Minn. R. 7011.0715)	For these units, it is highly unlikely that they could violate the applicable requirement. In addition, these units are vented inside a building, so testing for PM or opacity is not feasible.

3.5 Comments Received

Public Notice Period: June 20, 2008 – August 1, 2008

Comments were received from the public during the public notice period. The comments received included the possible effect on air quality of diesel truck emissions on public roads (analysis of emissions from idling trucks onsite was included in the AERA), and the accuracy of computer dispersion modeling. Changes to the permit were not made as a result of the comments.

Many other comments on air quality issues were received as part of a request for an EIS. Those comments and the response are documented in the environmental review documents.

4. Conclusion

Based on the information provided by MinnErgy, LLC, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 10901021-001 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: David Beil (permit writer/engineer)
 Sarah Kilgriff (enforcement)
 Curt Stock (stack testing)
 Chris Buntjer (peer reviewer)

AQ File No. 4369; DQ 1621

Attachments:

1. CD-01 Forms (provide the regulatory basis for each permit condition)
2. Emission Calculations from application



Adobe Acrobat 7.0
Document