AIR EMISSION PERMIT NO. 10500053-005

IS ISSUED TO

Minnesota Soybean Processors

MINNESOTA SOYBEAN PROCESSORS - BREWSTER
121 Zeh Avenue
Brewster, Nobles County, MN 56119

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

Permit Type	Application Date	Permit Issuance	Action Number
Total Facility Operating Permit	02/27/2001	12/19/02	001
Major Amendment	5/12/03	11/10/03	002
Minor Amendment	12/19/03	5/14/04	003
Major Amendment	03/11/2005	8/29/05	004
Major Amendment	10/21/05	See below	005

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

Permit Type: Federal; Pt 70/NSR Authorization

Issue Date: May 18, 2006

Expiration: 12/19/2007
All Title I Conditions do not expire.

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

for Sheryl A. Corrigan
Commissioner
Minnesota Pollution Control Agency

TABLE OF CONTENTS

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:

From the initial Permit (-001), Minnesota Soybean Processors (Permittee) was authorized to construct and operate a 3,000 ton per day soybean processing plant in the city of Brewster, Nobles County, Minnesota.

The facility at Brewster will receive raw soybeans and process them, extracting crude soybean oil from the beans. By-products of the oil processing are soy meal and hulls, which are sold for animal feed.

Soybeans will be delivered from the local farmers or grain storage facilities by semi-trailer truck. The soybeans are off-loaded and stored in bins having a storage capacity of 2.3 million bushels. From storage the beans are sent to a screening and cleaning area in the preparation building where trash accompanying the beans is removed. From here the beans are routed to the dehulling process. The hull of the bean will be ground. The ground soybean hulls are usually formed into pellets and sold as animal feed. The meat of the bean is cracked into larger chunks, conditioned (heated) and then pressed into flakes. These materials are then sent to the extraction building.

The flakes are washed in the extraction building with a solvent, commercial hexane, to strip the oil from the flakes. The mixture of solids and solvent are separated. The solids, which are still laden with hexane, are sent to a meal desolventizer where they are heated and the solvent is volatilized. The solvent-free solids are then cooled, ground and stored as meal. This meal is sold as animal feed. The liquid removed from the solids consists of hexane, soybean oil, and water and is called the miscella.

The miscella is separated into its components using distillation. The hexane is reused, the water disposed of and the oil, termed “crude oil,” is stored. The crude oil will be shipped off-site, to be refined into various products.

The meal and oil products will be shipped from the facility by rail and truck.

Besides receiving, preparation and extraction there will be a weigh station, offices and a lab, a steam generation plant, maintenance, and warehousing. The steam plant will fire, primarily, natural gas.

AMENDMENT - 002 DESCRIPTION:

The permit action allowed the operation of a major air emissions source, as defined by the Federal New Source Review Prevention of Significant Deterioration (PSD) program. 40 CFR § 52.21. The permit action was not a modification under the PSD program, but does require a major amendment. Minn. R. 7007.1500. Therefore, the permit was placed on public notice. This permit amendment authorized the Permittee to increase the PM and PM_{10} limits for the two permitted boilers. This increase corrects the existing permit limits to reflect the previously approved limits in the total facility permit application. The fuel for the combustion units will continue to be natural gas and very low sulfur distillate oil (less than 0.05 percent sulfur). Several additional design modifications were also authorized.

AMENDMENT - 003 DESCRIPTION:

The permit action allows the operation of a major air emissions source, as defined by the Federal New Source Review Prevention of Significant Deterioration (PSD) program. 40 CFR § 52.21. The permit action was a minor amendment. Minn. R. 7007.1450. This permit action authorized the construction and operation of a 30 million gallon per year bio-diesel manufacturing process. The Permittee intends to produce bio-diesel from the vegetable oil feedstock produced at its existing soybean oil extraction facility.

AMENDMENT - 004 DESCRIPTION

The permit action allows the operation of the baghouse (GP 002) at a pressure differential of between 0.2 and 5.8 inches of water column. The permit action revises an existing Title I limit at GP 002; therefore, this is a major amendment under Minn. R. 7007.1500, subp. 1.

AMENDMENT – 005 DESCRIPTION

This permit action authorizes the following changes. First of all, the Permittee is authorized to test burn biodiesel fuel in its boilers. Furthermore, this permit places emission limits on the biodiesel that are equivalent to distillate #2 fuel oil limits. If the performance testing exceeds any of the authorized biodiesel emission limits, the Permittee can not combust biodiesel until a permit is issued authorizing the ability to combust biodiesel at emission levels higher than those authorized in this permit action (-005). In addition, the Permittee is pre-authorized to conduct performance tests on additional fuel for its boilers. In addition, the total facility rain cap provision is clarified. Finally, corrections, based on as builts, to the DT/DC configuration are incorporated.

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 005

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
DETERMINING IF A PROJECT/MODIFICATION IS SUBJECT TO NEW SOURCE REVIEW	hdr
These requirements apply where there is a reasonable possibility that a proposed project, analyzed using the actual-to-projected-actual (ATPA) test and found to not be part of a major modification, may result in a significant emissions increase. If the ATPA test is not used for a particular project, or if there is not a reasonable possibility that the proposed project could result in a significant emissions increase, then these requirements do not apply to that project. Even though a particular modification is not subject to New Source Review, a permit amendment, recordkeeping, or notification may still be required under Minn. R. 7007.1150 - 7007.1500.	Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000
Preconstruction Documentation -- Before beginning actual construction on a project, the Permittee shall document the following information: 1. A description of the project 2. Identification of the emission unit(s) whose emissions of an NSR pollutant could be affected 3. A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including the baseline actual emissions, the potential emissions, the projected actual emissions, the amount of emissions excluded due to increases not associated with the modification and that the unit(s) could have accommodated during the baseline period, an explanation of why the amounts were excluded, and any creditable contemporaneous increases and decreases that were considered in the determination. The Permittee shall maintain records of this documentation.	Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 & 5
The Permittee shall monitor the actual emissions of any regulated NSR pollutant that could increase as a result of the project and that were analyzed using the ATPA test, and the potential emissions of any regulated NSR pollutant that could increase as a result of the project and that were analyzed using potential emissions. The Permittee shall calculate and maintain a record of the sum of the actual and potential (if used in the analysis) emissions of the regulated pollutant, in tons per year on a calendar year basis, for a period of 5 years following resumption of regular operations after the change, or for a period of 10 years following resumption of regular operations after the change if the project increases the design capacity of or potential to emit of any unit associated with the project.	Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 & 5
The Permittee must submit a report to the Agency if the annual summed (actual plus potential, if applicable) emissions differ from the preconstruction projection and exceed the baseline actual emissions by a significant amount as listed at 40 CFR Section 52.21(b)(23). Such report shall be submitted to the Agency within 60 days after the end of the year in which the exceedances occur. The report shall contain: a. The name and ID number of the facility, and the name and telephone number of the facility contact person b. The annual emissions (actual plus potential, if any part of the project was analyzed using potential emissions) for each pollutant for which the preconstruction projection and significant emissions increase are exceeded. c. Any other information, such as an explanation as to why the summed emissions differ from the preconstruction projection.	Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 & 5
OPERATIONAL REQUIREMENTS	hdr
The Permittee shall comply with National Primary and Secondary Ambient Air Quality Standards, 40 CFR pt. 50, and the Minnesota Ambient Air Quality Standards, Minn. R. 7009.0010 to 7009.0080. Compliance shall be demonstrated upon written request by the MPCA.	40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, supbs. 7A, 7L & 7M; Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0100-7009.0080.

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 005

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)
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)
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
Fugitive Emissions Control Plan: The Permittee shall develop and comply with a Fugitive Emissions Control Plan. The Plan may be amended by the Permittee with the Commissioner's approval. If the Commissioner determines the Permittee is out of compliance with Minn. R. 7011.0150 or the Fugitive Emission Control Plan, then the Permittee may be required by the Commissioner to amend the Control Plan and/or to install and operate particulate matter ambient monitors.	Minn. R. 7007.0800, subp. 2
The Permittee shall maintain a designated contact, on-site, for the neighbors to telephone with concerns of any dust. This could be related to dust arising from trucks, either entering or leaving the facility premises as well as from the handling of the outside soybean storage. Upon such a complaint, the facility will investigate the complaint. Valid dust complaints are to be addressed by reasonable and appropriate mitigation measures. The Permittee shall record all complaints, investigation findings, and mitigation measures taken. A continued pattern of dust complaints may trigger a new PM10 modeling analysis.	Minn. R. 7007.0800, subp. 2
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
The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.	Minn. R. 7007.0800, subp. 16
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)
Limits set as a result of a performance test (conducted before or after permit issuance) apply until superseded as specified by Minn. R. 7017.2025 following formal review of a subsequent performance test on the same unit.	Minn. R. 7017.2025
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
Emission Fees: due 60 days after receipt of an MPCA bill.	Minn. R. 7002.0005 through Minn. R. 7002.0095
Rain caps are not allowed on any stacks that were included in any ambient air impact analysis of an ambient air quality standard or PSD increment flow. Rain diversion devices that do not block the vertical flow of exhaust gases, are not considered rain caps for purposes of this requirement. Such devices could include, but are not limited to, butterfly caps and no-loss rain sleeves.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(k) to demonstrate source impact analysis for attainment and increment standards.
NOTIFICATION REQUIREMENTS	hdr
Shutdown Notifications: Notify the Commissioner at least 24 hours in advance of a planned shutdown of any control equipment or process equipment if the shutdown would cause any increase in the emissions of any regulated air pollutant. If the owner or operator does not have advance knowledge of the shutdown, notification shall be made to the Commissioner as soon as possible after the shutdown. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 3. At the time of notification, the owner or operator shall inform the Commissioner of the cause of the shutdown and the estimated duration. The owner or operator shall notify the Commissioner when the shutdown is over.	Minn. R. 7019.1000, subp. 3

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 005

Breakdown Notifications: Notify the Commissioner within 24 hours of a breakdown of more than one hour duration of any control equipment or process equipment if the breakdown causes any increase in the emissions of any regulated air pollutant. The 24-hour time period starts when the breakdown was discovered or reasonably should have been discovered by the owner or operator. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 2. At the time of notification or as soon as possible thereafter, the owner or operator shall inform the Commissioner of the cause of the breakdown and the estimated duration. The owner or operator shall notify the Commissioner when the breakdown is over.	Minn. R. 7019.1000, subp. 2
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
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, B, and/or C, monitoring a process or control equipment connected to that process is not necessary during periods when the process is shutdown, or during checks of the monitoring systems, such as calibration checks and zero and span adjustments. If monitoring records are required, they should reflect any such periods of process shutdown or checks of the monitoring system.	Minn. R. 7007.0800, subp. 4(D)
RECORDKEEPING REQUIREMENTS	hdr
Equipment List: The Permittee shall maintain a written list of all emission units on site that are not insignificant activities. The list shall include the type of equipment; identifying number; date of installation, modification, and/or reconstruction; and identification of any applicable Standards of Performance for New Stationary Sources (40 CFR pt. 60) and/or National Emission Standards for Hazardous Air Pollutants (40 CRF pt. 63).	Minn. R. 7007.0800, subp. 5
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)
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)
REPORTING REQUIREMENTS	hdr
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 91 days after end of each calendar year following permit issuance (April 1). To be submitted on a form approved by the Commissioner.	Minn. R. 7019.3000 through Minn. R. 7019.3010
PERFORMANCE TESTING REQUIREMENTS	hdr
Performance Testing: Conduct all performance tests in accordance with Minn. R. ch. 7017 unless otherwise noted in Tables A, B, and/or C.	Minn. R. ch. 7017

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 005

General Performance Test Requirements: 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	Minn. R. 7017.2030, subp. 1-4 and Minn. R. 7017.2035, subp. 1-2
Testing Frequency Plan: due 60 days after completion of all permit specified Initial Performance Tests. The plan will address all of the tested units. The plan shall specify a testing frequency using the test data and MPCA guidance. Future performance tests based on year (12 month), 36 month, and 60 month intervals, or as applicable, shall be required on written approval of MPCA per Minn. R. 7017.2020, subp. 1. The MPCA staff has reviewed testing frequency plan submittals dated June 25, October 7, October 22 and December 2, 2004.	Minn. R. 7017.2020, subp. 1
NESHAP REQUIREMENTS	hdr
The Permittee shall comply with the Maximum Acheivable Control Technology (MACT) Standard for Solvent Extraction for Vegetable Oil Production.	40 CFR pt. 63
The Permittee shall not "construct" or "reconstruct" a major source of hazardous air pollutants as defined in 40 CFR section 63.2, without first obtaining a preconstruction permit.	40 CFR Sections 63.40 to 63.44; Minn. R. 7007.3010

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 005

Subject Item: **GP 001 Solvent Extraction (n-Hexane) Losses**

Associated Items: FS 001 Fugitive Emissions

What to do	Why to do it
NESHAP for Source Categories (pt 63)	hdr
GGGG, Solvent Extraction for Vegetable Oil Production	hdr
EMISSION LIMITS	hdr
Compliance Ratio: less than or equal to 1.00. The Compliance Ratio = (fhap * actual solvent loss)/(0.64* allowable solvent loss) where, fhap = the weighted average HAP content of solvent purchased during the previous 12 operating months (volume fraction); 0.64 = average volume fraction of HAP in solvent (dimensionless); Actual solvent loss = quantity of actual solvent loss during previous 12 operating months (gallons); Allowable solvent loss = quantity of soybeans processed during the previous 12 operating months (tons) multiplied by 0.2 (gallons/ton)	40 CFR Section 63.2840
GENERAL REQUIREMENTS	hdr
Calculations - Compliance Ratio: By the end of each calendar month following an operating month, calculate the compliance ratio for the previous 12 operating months. This requirement does not apply during the initial startup period (i.e., the first 6 calendar months following initial startup). The first compliance ratio will be determined following the first 12 operating months after initial startup (or the 19th operating month after initial plant startup). An operating month is any calendar month with at least one normal operating period. It does not include the initial startup period or malfunction period. A normal operating period is defined in the proposed 40 CFR 63.2872.	40 CFR Section 63.2840
By the end of each calendar month following an operating month, calculate the actual extraction solvent loss during the previous operating month. The monthly actual extraction solvent loss is to be determined as follows: Actual Solvent Loss = SOLVb - SOLVe + SOLVr +/- SOLVa where, SOLVb = gallons of solvent in the inventory at the beginning of the normal operating month. SOLVe = gallons of solvent in the inventory at the end of the normal operating month. SOLVr = gallons of solvent received between the beginning and ending inventory dates of the normal operating month. This includes purchased hexane and hexane recovered from imported oil that is added to the extraction plant inventory. SOLVa = gallons of solvent added or removed from the extraction solvent inventory during the normal operating month. For SSM Solvent loss events, the excluded solvent loss must be documented for the event and an estimated associated solvent loss must be provided.	40 CFR Section 63.2853
Calculations - 12-month Rolling Sum: Calculate the 12-month rolling sum actual solvent loss by summing the 12 most recent actual monthly solvent losses.	40 CFR Section 63.2853
Calculations - Monthly Weighted Average HAP Content: By the end of each calendar month following an operating month, calculate weighted average HAP content (volume fraction). The monthly weighted average HAP content is to be determined using the following equation: Monthly Weighted Average HAP Content of Extraction Solvent (volume fraction) $= \sum_{i=1}^{n} (Received_i * Content_i) / Total\ Received$ where, Receivedi = gallons of extraction solvent received in delivery i; Contenti = volume fraction of HAP in extraction solvent delivery i; n = number of extraction solvent deliveries since the end of the previous operating month. Total received = total gallons of extraction solvent received since the end of the previous operating month.	40 CFR Section 63.2854

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 005

Calculations - 12-month Weighted Average of HAP Content of Solvent Received: 12-Month Weighted Average of HAP Content in Solvent Received (volume fraction) = Sum (Receivedi * Contenti) / Total Received, i = 1 to 12	40 CFR Section 63.2854
Calculations - Oilseed Quantity Processed: By the end of each calendar month following an operating month, calculate the monthly quantity of each oilseed processed by using the following equation: Monthly Quantity of Oilseed Processed = The sum of (SEEDb - SEEDe + SEEDr +/- SEEDa) where, SEEDb = tons of soybeans in the inventory at the beginning of the normal operating month; SEEDe = tons of soybeans in the inventory at the end of the normal operating month SEEDr = tons of soybeans received during the normal operating month; SEEDa = tons of soybeans added or removed from the oilseed inventory during the normal operating month.	40 CFR Section 63.2855
Calculations - 12-month Rolling Sum: Calculate the 12-month rolling sum of the oilseed quantity processed by summing the monthly oilseed quantity processed for the previous 12 operating months.	40 CFR Section 63.2855
Plan for Demonstrating Compliance: Develop and implement a written Plan for Demonstrating Compliance. This Plan will include: 1) a detailed description of the procedures that will be followed to minimize solvent loss, at all times, including normal, startup/shutdown/malfunction (SSM), and non-operating conditions; and, 2) a detailed description of the method of measurement, measurement frequency, calculations, and quality assurance/quality control plan; recordkeeping; and reporting procedures that will be followed to determine source compliance.	40 CFR Section 63.2862(b)
Startup, Shutdown, and Malfunction Plan: Develop and implement a written Startup, Shutdown, and Malfunction (SSM) plan. At a minimum, this plan is to include: 1) a detailed procedure for operating and maintaining the facility to minimize emissions during any SSM event, periods of non-operation associated with a SSM event, and periods of initial startup operation; and, 2) a specified program of corrective action for malfunctioning process and air pollution control equipment; and, 3) specified procedures for estimating solvent loss during each such SSM event.	40 CFR Section 63.2862(b)
RECORDKEEPING REQUIREMENTS	hdr
By the end of each calendar month following an operating month, record the compliance ratio for each 12 month operating period.	40 CFR Section 63.2862(d)
Upon delivery, record the volume fraction of each HAP comprising more than 1 percent by volume of the solvent in each delivery of solvent, including solvent recovered from off-site oil. For purchased solvent, a Certificate of Analysis provided by the solvent may be used to determine the average HAP content of solvent received. For recovered solvent from vegetable oil purchased from off-site locations, reasonable and sound methods for determining the HAP content shall be used.	40 CFR Section 63.2862(c)
Recording - Solvents: By the end of each calendar month following an operating month, record the following information for the previous operating month. These records shall include the sum of all hexane solvents. At a minimum, these records are to include: 1) beginning and end dates defining the operating month; 2) extraction solvent inventories (gallons) at the beginning and end of the operating month; 3) quantity of all extraction solvent (gallons) received, purchased, and off-site recovered, during the operating month; 4) documention of the reason for and quantity estimation of all extraction solvent inventory adjustments, additions or subtractions; 5) total solvent loss during the operating month; and, 6) 12-month rolling sum of the extraction solvent lost by the process (gallons).	40 CFR Section 63.2862(b)

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 005

Recording - Average HAP Content: By the end of each calendar month following an operating month, record the following information for the average HAP content in the extraction solvent, for the previous operating month: 1) quantity of extraction solvent purchased and delivered during the operating month; 2) concentration of each HAP exceeding 1 percent by volume in each delivery of purchased solvent; 3) average HAP content of extraction solvent received during the operating month; and, 4) weighted average HAP content of extraction solvent received during the previous 12 operating months. (This is not required during the initial startup period.)	40 CFR Section 63.2862(c)
Recording - Processed Soybean Weight: Record the tons of soybeans processed for the operating month. At a minimum, these records are to include: 1) beginning and end dates defining the operating month; 2) inventory of each oilseed (tons) at the beginning and end of the operating month; 3) quantity of each oilseed received at the process (tons) during the operating month; 4) documention as to reason for adjustment and estimation of the quantity of the adjustment for all oilseed inventory adjustments (additions or subtractions); 5) quantity of each oilseed processed (tons) during the operating month; and, 6) 12-month rolling sum of each oilseed processed (tons). (This is not required during the initial startup period.)	40 CFR Section 63.2862(c)
Record any process modifications resulting in changes to the solvent working capacity.	40 CFR Section 63.2853(a)
REPORTING REQUIREMENTS	hdr
Submit notifications before, during, and after construction according to the schedule listed in 40 CFR Section 63.9, but not sooner than the promulgation date of 40 CFR pt. 63, Subpart GGGG. The notifications are subject to the exceptions noted in 40 CFR Section 63.2860(b)(1). The application for approval of construction must include a brief description of the source including the types of listed oilseed processed, nominal operating capacity, and type of desolventizer used. The notification of actual startup shall state whether the Permittee has elected to operate under an initial startup period subject to 40 CFR Section 63.2850(c)(2) and provide an estimate and justification for the anticipated duration of the initial startup period.	40 CFR Section 63.2860
Notification of Deviation Report. A deviation notification report must be submitted, for each operating month, in which the compliance ratio exceeds 1.00. The report is to be submitted by the end of the month following the calendar month in which the deviation occurred. This report is to include the compliance ratio comprising the deviation.	40 CFR Section 63.2861(b)
Periodic SSM Report: By the end of the calendar month, submit a periodic SSM report for the previous month during which the facility has been operated under an initial startup period or a malfunction period. This SSM report is to include an estimate of the solvent loss during the initial startup or malfunction period with supporting documentation.	40 CFR Section 63.2861(c)
Immediate Startup, Shutdown, and Malfunction Reports: Submit an immediate SSM report if a SSM event during an initial startup period or malfunction period is handled differently from procedures in the SSM plan and the relevant emission requirements in 40 CFR section 63.2840 are exceeded. Immediate SSM reports consist of a telephone call or facsimile transmission to the responsible agency within 2 working days after starting actions inconsistent with the SSM plan, followed by a letter within 7 working days after the end of the event. This letter is to include an estimate of the solvent loss during the SSM event with supporting documentation.	40 CFR Section 63.2861(d)

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 005

Subject Item: GP 002 Fabric Filter Equipment

What to do	Why to do it
OPERATING REQUIREMENTS (All requirements apply to each control equipment unit.)	hdr
The Permittee shall operate and maintain the control equipment any time that the process equipment that it controls is in operation.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j); Minn. R. 7007.3000
Visible Emissions/Pressure Drop Monitoring: Once each day of operation of any GP 002 fabric filter, the Permittee shall check the outlet of each operating fabric filter during daylight hours for any visible emissions (VEs). If inclement weather prohibits a VE check, the Permittee shall observe and record the pressure drop across each operating fabric filter.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j); Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4
Install and operate a pressure differential monitoring gauge for determining the pressure drop across the baghouse. Pressure Drop: greater than or equal to 0.2 inches of water column and less than or equal to 5.8 inches of water column	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j); Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4
The Permittee shall take corrective actions, as soon as possible, as based on the operation and maintenance plan to eliminate any visible emissions and/or any pressure drops outside the permitted range specified under this subject item, from any fabric filters.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j); Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 2
Operate and maintain each control equipment such that it achieves a removal efficiency of each fabric filter for total PM: greater than or equal to 99.0 percent control efficiency.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j); Minn. R. 7007.3000
Operate and maintain each control equipment such that it achieves a removal efficiency of each fabric filter for PM10: greater than or equal to 99.0 percent control efficiency.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j); Minn. R. 7007.3000
Inspect each of the fabric filters quarterly, or as required by manufacturing specifications, all components that are not subject to wear or plugging, including structural components, housing, ducts, and hoods. Maintain a written record of the inspection and any action resulting from the inspection.	Minn. R. 7007.0800, subps. 2, 5, and 14
Inspect each of the fabric filters quarterly, or as required by manufacturing specifications, all components that are subject to wear or plugging. Maintain a written record of the inspection and any action resulting from the inspection.	Minn. R. 7007.0800, subps. 2, 5, and 14
RECORDING REQUIREMENTS	hdr
Recordkeeping of daily monitoring: the Permittee shall keep a daily record, that contains, at a minimum, the following information for each fabric filter unit: 1) Printed name of observer; 2) Signature of observer; 3) Date and time of observation; 4) Are there any visible emissions observed from the fabric filters? ("yes" or "no") 5) Stack/Vent ID number for each "yes"; 6) Description of investigation and corrective actions completed for each "yes"; 7) Weather conditions (temperature, cloud cover, wind, precipitation). or 1) Pressure drop.	Minn. R. 7007.0800, subp. 5
Recordkeeping of corrective actions: The Permittee shall record the corrective actions taken, as soon as possible, as based on the operation and maintenance plan to eliminate any visible emissions and/or any pressure drops outside the permitted range specified under this subject item, from any fabric filters. The Permittee shall keep a record, on-site, of the corrective actions taken.	Minn. R. 7007.0800, subp. 5
Monitor and record pressure drop, for each fabric filter, once every seven days of operation.	Minn. R. 7007.0800, subps. 4 & 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 005

Subject Item: GP 003 VOC Losses

What to do	Why to do it
OPERATING REQUIREMENTS (All requirements apply to the sum of all emission units.)	hdr
Volatile Organic Compounds: less than or equal to 619 tons/year using 12-month Rolling Sum for VOC solvent loss (after first eighteen months of operation).	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
During the first eighteen months of operation, the total sum VOC solvent loss shall be less than the following values as of any given month: Month Sum VOC Loss (tons) Month Sum VOC Loss (tons) 1 387 13 1,005 2 646 14 928 3 688 15 851 4 732 16 773 5 776 17 696 6 820 18 619 7 864 8 908 9 951 10 995 11 1,039 12 1,083 13	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
RECORDKEEPING	hdr
By the end of each calendar month following an operating month, calculate the quantity of actual VOC solvent loss for the previous 12 months by using the monthly and 12 month solvent loss methods in GP 001.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j); Minn. R. 7007.0800, subps. 4 & 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 005

Subject Item: GP 004 Hull Grind; Ground Hull Bin; Pellet Tank; Blending Tank; Clay/Earth Bleach

What to do	Why to do it
EMISSION LIMITS (All limits apply individually to each emission unit.)	hdr
Total Particulate Matter: less than or equal to 0.005 grains/dry standard cubic foot using 1-Hour Average for any process emissions from each stack vent in GP 004.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Particulate Matter < 10 micron: less than or equal to 0.005 grains/dry standard cubic foot using 3-hour Average for any process emissions from each stack vent in GP 004.	Title Condition: BACT Limit as per 40 CFR Section 52.21(j)
Opacity: less than or equal to 20 percent	Minn. R. 7011.0715, subp. 1(B)
OPERATING REQUIREMENTS	hdr
Fabric filters for each individual stack shall be operated at all times when the emission unit is in operation. See GP 002 for Fabric Filter requirements.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
PERFORMANCE TESTS	hdr
Initial Performance Test: due 180 days after 12/08/2003 to measure PM10 for both SV 005 and SV 006 within GP 004. For additional applicable performance test requirements see 'General Performance Test Requirements' in Table A, subject item "Total Facility." The test for SV 005 was completed on April 27, 2004. The test for SV 006 was completed August 12, 2004.	Minn. R. 7007.0800, subp. 4
Performance Test: due before end of each calendar 60 months starting 04/27/2004 to measure PM10 for SV 005.	Minn. R. 7007.0800, subp. 4
Performance Test: due before end of each calendar 60 months starting 08/12/2004 to measure PM10 for SV 006.	Minn. R. 7007.0800, subp. 4

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 005

Subject Item: GP 005 Cyclone Units

What to do	Why to do it
EMISSION LIMITS (All limits apply individually to each emission unit.)	hdr
Total Particulate Matter: less than or equal to 0.026 grains/dry standard cubic foot using 1-Hour Average for any process emissions from each stack vent in GP 005.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j); also meets the requirements of Minn. R. 7011.0715, subp. 1A
Particulate Matter < 10 micron: less than or equal to 0.013 grains/dry standard cubic foot using 3-hour Average for any process emissions from each stack in GP 005.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Opacity: less than or equal to 20 percent	Minn. R. 7011.0715, subp. 1(B)
OPERATING REQUIREMENTS	hdr
Cyclones for each individual stack shall be operated at all times whenever the emission unit vented to that stack is in operation.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Install and maintain a monitoring device in each cyclone that will continously monitor for plugging of the cyclone. The monitoring devices will be connected to audible and visible alarms to indicate plugging or failure of the probe.	Title I Condition: BACT Limit as per 40 CFR Section 52.21; Minn. R. 7007.0800, subp. 14
The monitoring devices and alarm system shall be operated whenever the corresponding cyclone is operating.	Minn. R. 7007.0800, subps. 4 & 5
Inspect each cyclone quarterly, or as required by manufacturing specifications, all components that are not subject to wear or plugging, including structural components, housing, ducts, and hoods. Maintain a written record of the inspection and any action resulting from the inspection.	Minn. R. 7007.0800, subps. 2, 5, and 14
Inspect each cyclone quarterly, or as required by manufacturing specifications, all components that are subject to wear or plugging. Maintain a written record of the inspection and any action resulting from the inspection.	Minn. R. 7007.0800, subps. 2, 5, and 14
PERFORMANCE TESTS	hdr
Initial Performance Test: due 180 days after 12/08/2003 to measure PM10 for each stack vent (SV 010, SV 013, SV 014, SV 015, SV 016, SV 022) within Group 5. For additional applicable performance test requirements see 'General Performance Test Requirements' in Table A, subject item "Total Facility." The performance test has been completed for SV 013 through SV 016 as a combined SV 032. SV 010 and SV 022 are not currently installed.	Minn. R. 7007.0800, subp. 4
Initial Performance Test: due 180 days after 12/08/2003 to measure PM10 for eachstack vent SV 004, SV 007 and SV 011 within Group 5. For additional applicable performance test requirements see 'General Performance Test Requirements' in Table A, subject item "Total Facility." The permittee completed the test for SV 004 on September 9, 2004. The permittee completed the tests for SV 007 and SV 011 on April 27, 2004.	Minn. R. 7007.0800, subp. 4
Performance Test: due before end of each calendar 36 months starting 09/09/2004 to measure PM10 for SV 004.	Minn. R. 7007.0800, subp. 4; Minn. R. 7017.2020, subp. 1
Performance Test: due before end of each calendar 60 months starting 04/27/2004 to measure PM10 for SV 007.	Minn. R. 7007.0800, subp. 4; Minn. R. 7017.2020, subp. 1
Performance Test: due before end of each calendar 36 months starting 04/27/2004 to measure PM10 for SV 011.	Minn. R. 7007.0800, subp. 4; Minn. R. 7017.2020, subp. 1
Performance Test: due before end of each calendar 60 months starting 04/27/2004 to measure PM10 for SV 032.	Minn. R. 7007.0800, subp. 4; Minn. R. 7017.2020, subp. 1

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 005

Subject Item: GP 006 Storage Tanks

What to do	Why to do it
Keep readily accessible records showing the dimension of each individual storage vessel and an analysis showing the capacity of each individual storage vessel.	40 CFR Section 60.116b(b)

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 005

Subject Item: GP 007 Boilers

What to do	Why to do it
EMISSION LIMITS (All limits apply to each emission unit.)	hdr
Nitrogen Oxides: less than or equal to 0.050 lbs/million Btu heat input when combusting natural gas, using 3-hour average.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Nitrogen Oxides: less than or equal to 0.1250 lbs/million Btu heat input when combusting distillate fuel oil, using 3-hour Average.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Nitrogen Oxides: less than or equal to 0.1250 lbs/million Btu heat input when combusting a blend of distillate fuel oil and biodiesel, including up to 100% biodiesel, using a 3-hour average.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Volatile Organic Compounds: less than or equal to 0.00524 lbs/million Btu heat input when combusting natural gas.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Volatile Organic Compounds: less than or equal to 0.00143 lbs/million Btu heat input when combusting distillate fuel oil.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Volatile Organic Compounds: less than or equal to 0.00143 lbs/million Btu heat input when combusting a blend of distillate fuel oil and biodiesel, including up to 100% biodiesel, using a 3-hour average.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Total Particulate Matter: less than or equal to 0.00745 lbs/million Btu heat input when combusting natural gas.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Total Particulate Matter: less than or equal to 0.0236 lbs/million Btu heat input when combusting distillate fuel oil.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Total Particulate Matter: less than or equal to 0.0236 lbs/million Btu heat input when combusting a blend of distillate fuel oil and biodiesel, including up to 100% biodiesel.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Particulate Matter < 10 micron: less than or equal to 0.00745 lbs/million Btu heat input when combusting natural gas.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Particulate Matter < 10 micron: less than or equal to 0.0236 lbs/million Btu heat input when combusting distillate oil.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Particulate Matter < 10 micron: less than or equal to 0.0236 lbs/million Btu heat input when combusting a blend of distillate fuel oil and biodiesel, including up to 100% biodiesel.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Sulfur Dioxide: less than or equal to 0.0507 lbs/million Btu heat input	Title I Condition: Limit to avoid classification as major for SO2 under 40 CFR Section 52.21; also meets the requirements of 40 CFR Section 60.42c(d)
Opacity: less than or equal to 20 percent (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity.	40 CFR Section 60.43c(c)
OPERATING REQUIREMENTS	hdr
Fuel type: pipeline natural gas, low sulfur distillate oil, a biodiesel/low sulfur distillate oil blend, and 100% biodiesel, only. Alternative fuels may be fired during test burns in compliance with all permit conditions. Biodiesel is defined as a mono alkyl ester combustible liquid fuel derived from soybean plant oils and that meets American Society for Testing and Materials Specification D6751-02 for Biodiesel Fuel (B100) Blend Stock for distillate fuels.	Minn. R. 7005.0100, subp. 35a; Minn. R. 7007.0800, subp. 2
Fuel Sulfur Content: Maximum sulfur content 0.05%, by weight, for distillate oil and biodiesel.	Title I Condition: Limit to avoid classification as major for SO2 under 40 CFR Section 52.21
Fuel Usage: less than or equal to 6080000 gallons/year using 12-month Rolling Sum of distillate fuel oil and biodiesel to be consumed by both Boilers #1 (EU 026) and #2 (EU 027), based on a calculated 12-month rolling sum. This is to be calculated by the end of each calendar month for the previous month.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j) (for NOx); Title I Condition: Limit to avoid classification as major under 40 CFR Section 52.21 (for SO2)
Except during start-up and shutdown, operate CE 027 at all times that EU 026 is operating and operate CE 028 at all times that EU 027 is operating.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Biodiesel Performance Test Exceedance: If the results of the performance testing show an exceedance of any of the biodiesel fuel emission limits, the Permittee is not authorized to combust biodiesel without obtaining a permit amendment in compliance with Minn. R. 7007.1500.	Minn. R. 7007.0800, subp. 2
Biodiesel Fuel Content: Limited to the maximum amount blended with distillate fuel oil from the approved performance test containing the largest percentage of biodiesel blend. The biodiesel fuel content shall be determined on a percent by weight basis. This requirement becomes effective after the Commissioner's approval of the first performance test report.	Minn. R. 7007.0800, subp. 2

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 005

MONITORING REQUIREMENTS	hdr
The Permittee shall obtain the supplier certifications for each delivery of distillate oil which specify the sulfur content in percent by weight.	Minn. R. 7007.0800, subp. 4
The Permittee shall conduct a fuel analysis of the biodiesel to obtain the sulfur content, on a quarterly basis, for each quarter that biodiesel fuel is combusted. If, after 4 consecutive quarters of biodiesel fuel analysis, all fuel analysis results are less than 50% of the sulfur content limit, the Permittee may conduct only 1 sulfur content fuel analysis per calendar year. Any subsequent testing with results above 50% of the limit, will return the fuel analysis frequency to quarterly, when in operation. Keep records on site.	Minn. R. 7007.0800, subp. 4
Record the quantity distillate fuel oil and biodiesel consumed for Boilers #1 and #2 (in gallons) on a monthly basis. Keep records on site.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j) (for NOx); Title I Condition: Limit to avoid classification as major under 40 CFR Section 52.21 (for SO2)
SUBMITTAL AND REPORTS	hdr
Fuel supplier certifications shall include: i) the name of the oil supplier; and, ii) a statement from the oil supplier that the oil sulfur content is less than or equal to 0.05 percent by weight for distillate oil.	Title I Condition: BACT Limit as per 40 CFR Section 52.21; also meets the requirements of 40 CFR Section 60.48c(f)
Record and maintain records of the amounts of each fuel combusted during each month.	40 CFR Section 60.48c(g); Feb. 20, 1992 EPA Memo
PERFORMANCE TESTING - NATURAL GAS AND DISTILLATE FUEL OIL	hdr
Initial Performance Test: due 180 days after 12/08/2003 for each individual unit (EU 026 and EU 027) to measure NOx while firing natural gas. For additional applicable performance test requirements see 'General Performance Test Requirements' in Table A, subject Item "Total Facility." The initial test was completed on April 27, 2004.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Initial Performance Test: due 180 days after 04/06/2005 on distillate fuel oil for each individual unit (EU 026 and EU 027), but not to exceed 60 days after achieving the maximum production rate at which the affected facility will be operated to measure opacity while firing distillate fuel oil. For additional applicable performance test requirements see 'General Performance Test Requirements' in Table A, subject Item "Total Facility." The initial test was completed on Sept. 21, 2005.	40 CFR Section 60.45c(a); MInn. R. 7017.2020, subp. 1
Initial Performance Test: due 180 days after 04/06/2005 on distillate fuel oil for each individual unit (EU 026 and EU 027) to measure NOx while firing distillate fuel oil. The initial test was completed on Sept. 21, 2005.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Performance Test: due before end of each calendar 36 months starting 04/27/2004 to measure NOx for both EU 026 and EU 027 while firing natural gas.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
PERFORMANCE TESTING - BIODIESEL/BIODIESEL BLENDS	hdr
Performance Test: due 180 days after Initial Startup of biodiesel firing (Amendment -005) on the combined boiler stack (SV 021), while firing biodiesel, in both individual units (EU 026 and EU 027), to measure opacity. For additional applicable performance test requirements see 'General Performance Test Requirements' in table A, subject item "Total Facility."	MInn. R. 7017.2020, subp. 1
Performance Test: due 180 days after Initial Startup of biodiesel firing (Amendment -005) on the combined boiler stack (SV 021), while firing biodiesel, in both individual units (EU 026 and EU 027), to measure NOx. For additional applicable performance test requirements see 'General Performance Test Requirements' in table A, subject item "Total Facility."	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Performance Test: due 180 days after Initial Startup of biodiesel firing (Amendment -005) on the combined boiler stack (SV 021), while firing biodiesel, in both individual units (EU 026 and EU 027), to measure PM10. For additional applicable performance test requirements see 'General Performance Test Requirements' in table A, subject item "Total Facility."	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 005

Performance Test: due 180 days after Initial Startup of biodiesel firing (Amendment -005) on the combined boiler stack (SV 021), while firing biodiesel, in both individual units (EU 026 and EU 027), to measure CO. For additional applicable performance test requirements see 'General Performance Test Requirements' in table A, subject item "Total Facility."	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Performance Test: due 180 days after Initial Startup of biodiesel firing (Amendment -005) on the combined boiler stack (SV 021), while firing biodiesel, in both individual units (EU 026 and EU 027), to measure VOC. For additional applicable performance test requirements see 'General Performance Test Requirements' in table A, subject item "Total Facility."	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
ADDITIONAL FUEL TESTING AUTHORIZATION	hdr
Additional Fuel Testing Authorization: The Permittee is authorized to conduct test burns of the following alternative fuels: 1) byproducts or waste from the vegetable oil manufacturing process, which may include lecithin and soap-stock; and, 2) off-spec biodiesel and biodiesel manufacturing byproducts, which may include acidulated fatty acids and glycerin. These alternative fuels may be combusted as a fuel mix with biodiesel or distillate #2 oil or individually without a fuel mix. In addition, the Permittee is authorized to conduct test burns of different blends of distillate #2 fuel oil and biodiesel.	Title I Condition: Limit to avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.0800, subp. 2
Fuel Testing Restrictions: Each test burn for any potential alternative fuel as well as different blend of distillate #2 fuel oil and biodiesel shall be restricted as follows: 1) not to exceed 960,000 gallons of the alternative fuel or biodiesel per test burn: and, 2) not to exceed 45 days of operation while using the alternative fuel or biodiesel; and, 3) the test period shall not exceed 180 days.	Title I Condition: Limit to avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.0800, subp. 2
Performance Test Requirements: Test burns shall be conducted to measure CO, PM10, VOC, and NOx. For additional applicable performance test requirements see 'General Performance Test Requirements' in Table A, subject item "Total Facility." In addition, the Test Notification and Test Plan shall include: 1) the type (s) and estimated amount of alternative fuel or biodiesel to be tested, 2) operating parameters and anticipated fuel mixes during testing for the boiler to be tested, 3) air pollutants that will tested during testing, and 4) a testing schedule.	Title I Condition: Limit to avoid classification as a major modification under 40 CFR Section 52.21

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 005

Subject Item: GP 008 Loadout Units

What to do	Why to do it
EMISSION LIMITS (All limits apply to each emission unit.)	hdr
Total Particulate Matter: less than or equal to 0.003 grains/dry standard cubic foot using 1-Hour Average for any process emissions from each stack vent in GP 008.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j); also meets the requirements of 7011.1005, subp. 3(D)
Particulate Matter < 10 micron: less than or equal to 0.003 grains/dry standard cubic foot using 3-hour Average for any process emissions from each stack vent in GP 008.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Opacity: less than or equal to 10 percent	Minn. R. 7011.1005, subp. 3(D)
OPERATING REQUIREMENTS	hdr
Fabric filters for each individual stack shall be operated at all times when the emission unit is in operation. See GP 002 for Fabric Filter requirements.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Clean up commodities spilled on facility property, as required, to minimize emissions to a level required with RACT.	Minn. R. 7011.1005, subp. 3(D)
Maintain air pollution control equipment in proper operating condition and utilize the air pollution control systems as designed.	Minn. R. 7011.1005, subp. 3(D)

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 005

Subject Item: **GP 009 Methanol Storage Tanks #1 & #2; Sodium Methylate Tank**

Associated Items: TK 007 Methanol Storage Tank #1

TK 008 Methanol Storage Tank #2

TK 009 Sodium Methylate

What to do	Why to do it
The Permittee shall maintain records (on-site) showing the dimensions of each tank and an analysis showing the tank capacity.	40 CFR 60.116b(b); Minn. R. 7011.1520(C)
The Permittee shall notify the MPCA, within 30 days, if the maximum true vapor pressure exceeds 27.6 kPa.	40 CFR 60.116b(d); Minn. R. 7011.1520(C)

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 005

Subject Item: **GP 010 Bio-diesel Reactor Tanks 010 and 011**

Associated Items: TK 010 Bio-diesel Reactor #1

TK 011 Bio-diesel Reactor #2

What to do	Why to do it
The Permittee shall demonstrate compliance with 40 CFR 60.700(c)(4) by using Method 2, 2A, 2C or 2D of Appendix A to 40 CFR part 60, as appropriate, for determination of volumetric flow rate.	40 CFR 60.704(g)
To maintain compliance with the requirements of of 40 CFR 60.700, by complying with the flow rate cutoff in 40 CFR 60.700(c)(4), the Permittee shall keep up-to-date, readily accessible records to indicate that the vent stream flow rate is less than 0.011 scm/min and of any change in equipment or process operation that increases the operating vent stream flow rate, including a measurement of the new vent stream flow rate.	40 CFR 70.705(h)
The Permittee, in seeking to comply with the requirements of 40 CFR 60.700 by complying with the requirements of 40 CFR 60.700(c)(4) shall submit to the MPCA semiannual reports of the following information. The initial report shall be submitted within 6 months after the initial start-up date. (1) Any change in equipment or process operation that increases the operating vent stream flow rate above the low flow exemption level in 40 CFR 60.700(c)(4), including a measurement of the new vent stream flow rate, as recorded under 40 CFR 60.705(i). (2) These must be reported as soon as possible after the change and no later than 180 days after the change. (3) These reports may be submitted either in conjunction with semiannual reports or as a single separate report.	40 CFR 70.705(l)(4)
(4) A performance test must be completed within the same time period to verify the recalculated flow value and to obtain the vent stream characteristics of heating value and Etoc. The performance test is subject to the requirements of 40 CFR 60.8 of the General Provisions. (5) Unless the facility qualifies for an exemption under any of the exemption provisions listed in 40 CFR 60.700(c), except for the total resource effectiveness index greater than 8.0 exemption in 40 CFR 60.700(C)(2), the facility must begin compliance with the requirements set forth in 40 CFR 60.702.	40 CFR 70.705(l)(4) Continued
The Permittee, in seeking to demonstrate compliance with 40 CFR 60.700(c)(4), must submit to the MPCA an initial report including a flow rate measurement using the test methods specified in 40 CFR 60.704.	40 CFR 70.705(o)

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 005

Subject Item: **GP 011 Boilers (NESHAP Requirements)**

Associated Items: EU 026 Boiler #1 (with low-NOx burner)

EU 027 Boiler #2 (with low-NOx burner)

SV 021 Boiler #1 and #2

What to do	Why to do it
NESHAP for Source Categories (pt 63)	hdr
DDDDD, New Large Liquid Fuel-Fired Boiler, < 100 MMBtu/hr	hdr
Applicability: EU 026 and EU 027 must comply with 40 CFR pt. 63, subp. DDDDD (referred to as "subpart DDDDD" in this portion of the permit) upon startup of the unit.	40 CFR Section 63.6(b); 40 CFR Section 63.7495(a)
Submit to MPCA: All submittals and notifications under subpart DDDDD shall be sent to both the MPCA and EPA contacts listed on Page B-1 of this permit, unless otherwise noted.	Minn. R. 7007.0800, subp. 2
OPERATING SCENARIO #1: NATURAL GAS AND DISTILLATE FUEL OIL COMBUSTION ONLY	hdr
NESHAP EMISSION AND OPERATIONAL LIMITS	hdr
Carbon Monoxide: less than or equal to 400 parts per million by volume on a dry basis corrected to 3% oxygen (3-run average). This limit applies at all times except during periods of startup, shutdown, and malfunction.	40 CFR Sections 63.7500(a)(1) and 63.7505(a), Table 1 of part 63, subpart DDDDD; 40 CFR Section 63.6(f)(1)
Initial Compliance Demonstration: The Permittee shall demonstrate initial compliance with each emission limit and work practice standard that applies, no later than 180 days after November 12, 2004 or within 180 days after startup of the source, whichever is later, by either: 1) conducting initial performance tests and establishing operating limits, as applicable, according to Section 63.7520(c) and Tables 5 and 7 in part 63, subpart DDDDD; or, 2) conducting initial fuel analyses to determine emission rates and establishing operating limits, as applicable, according to Section 63.7521, Section 63.7530(d), and Tables 6 and 8 in part 63, subpart DDDDD. The Permittee undertook initial compliance demonstration, with subpart DDDDD, through performance testing conducted on May 10, 2005, while firing natural gas, and on September 21, 2005, while firing distillate oil.	40 CFR Section 63.7530(a); 40 CFR Section 63.7510(e)
Fuel restrictions: The Permittee shall only burn the fuel types and fuel mixtures used to demonstrate compliance with the applicable emission limit(s) according to 40 CFR Section 63.7530(c) or (d), as applicable.	40 CFR Section 63.7540(a), and Table 8 of part 63, subpart DDDDD.
Operate and Maintain Source: The Permittee shall at all times operate and maintain the emission units subject to the NESHAP and its associated air pollution control equipment in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels required by all relevant standards, as described at 40 CFR Section 63.6(e)(1)(i).	40 CFR Section 63.7505(b); 40 CFR Section 63.6(e)(1)(i)
Startup, Shutdown, and Malfunction Plan (SSMP): The Permittee shall develop, implement, and maintain a written startup, shutdown, and malfunction plan (SSMP) according to the provisions in 40 CFR Section 63.6(e)(3), by Nov. 12, 2004. Operate EU 026 and EU 027 according to the SSMP during periods of startup, shutdown, and malfunction. The plan must be available for inspection and copying by the Administration upon request.	40 CFR Sections 63.7505(e) and 63.7540(c); 40 CFR Section 63.6(e)(3)
Follow SSMP: During periods of startup, shutdown, and malfunction, the Permittee must operate and maintain EU 026 and EU 027 in accordance with the procedures specified in the SSMP developed under 40 CFR Section 63.6(e)(3)(i).	40 CFR Section 63.7540(c); 40 CFR Section 63.6(e)(1) and (3)(ii)
Actions During SSM(1): When actions taken by the Permittee during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) are consistent with the procedures specified in the SSMP, the Permittee must keep records for that event which demonstrate that the procedures specified in the plan were followed. These records may take the form of a checklist, or other effective form of recordkeeping that confirms conformance with the startup, shutdown, and malfunction plan for that event. In addition, the Permittee must keep records of these events as specified in 40 CFR Section 63.10(b). Furthermore, the Permittee shall confirm that actions taken during the relevant reporting period during periods of startup, shutdown, and malfunction were consistent with the SSMP in the Semi-Annual startup, shutdown, and malfunction report required in 40 CFR Section 63.10(d)(5).	40 CFR Section 63.6(e)(3)(iii)

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 005

Actions During SSM(2): If an action taken by the Permittee during a startup, shutdown, or malfunction (including an action taken to correct a malfunction) is not consistent with the procedures specified in the SSMP, and either boiler(s) exceed any applicable emission limitation in the relevant emission standard, then the Permittee must record the actions taken for that event and must report such actions within 2 working days after commencing actions inconsistent with the plan, followed by a letter within 7 working days after the end of the event, in accordance with 40 CFR Section 63.10(d)(5).	40 CFR Section 63.6(e)(3)(iv)
MONITORING AND RECORDKEEPING	hdr
General Provisions Recordkeeping: The Permittee shall maintain relevant records of: (1) The occurrence and duration of each startup, shutdown, or malfunction of operation (i.e., process equipment); (2) The occurrence and duration of each malfunction of the required air pollution control and monitoring equipment; (3) All required maintenance performed on the air pollution control and monitoring equipment; (4) Actions taken during periods of startup, shutdown, and malfunction (including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation) when such actions are different from the procedures specified in the SSMP;	40 CFR Section 63.10(b)(2)
General Provisions Recordkeeping Continued: (5) All information necessary to demonstrate conformance with the SSMP when all actions taken during periods of startup, shutdown, and malfunction (including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation) are consistent with the procedures specified in such plan. (The information needed to demonstrate conformance with the SSMP may be recorded using a checklist, or some other effective form of recordkeeping, in order to minimize the recordkeeping burden for conforming events); (6) All required measurements needed to demonstrate compliance with a relevant standard (including, but not limited to and raw performance testing measurements that support data that the source is required to report); (7) All results of performance tests; (8) All measurements as may be necessary to determine the conditions of performance tests; and,	40 CFR Section 63.10(b)(2)
General Provisions Recordkeeping Continued: (9) All documentation supporting initial notifications and notifications of compliance status under 40 CFR Section 63.9.	40 CFR Section 63.10(b)(2)
Recordkeeping (1) - The Permittee shall keep the following records: (1). a copy of each notification and report that was submitted to comply with subpart DDDDD, including all documentation supporting any Initial Notification or Notification of Compliance or Semi-Annual Compliance Report that was submitted, according to the requirements in 40 CFR Section 63.10(b)(2)(xiv); (2). the records in 40 CFR Section 63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction; and, (3). records of performance test evaluations, fuel analyses, or other compliance demonstration, performance evaluations as required in 40 CFR Section 63.10(b)(2)(viii).	40 CFR Section 63.7555(a)
Recordkeeping (2): The Permittee shall keep the records required in Table 8 of subpart DDDDD including records of all monitoring data and calculated averages for applicable operating limits such as opacity, pressure drop, CO, and pH to show compliance with each emission limit, operating limit, and work practice standard that is applicable.	40 CFR Section 63.7555(c)
Record Format: The Permittee's records must be in a form suitable and readily available for expeditious review, according to 40 CFR Section 63.10(b)(1). As specified in 40 CFR Section 63.10(b)(1), the Permittee must keep each record for five years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The Permittee shall keep each record on-site for at least two years after the date of each occurrence, measurement, maintenance, corrrective action, report, or record, according to 40 Section 63.10(b)(1). The Permittee can keep the records off-site for the remaining three years. Such files may be maintained on microfilm, on a computer, on computer floppy disks, on magnetic tape disks, or on microfiche.	40 CFR Section 63.7560

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 005

Fuel Usage Recordkeeping: Record and maintain records of the amounts fuel combusted on a monthly basis, according to Section 63.7540(a). These records may be in the form of fuel bills or meter readings.	40 CFR Section 63.7540(a), and Table 8 of part 63, subpart DDDDD.
NESHAP PERFORMANCE TESTING	hdr
The Permittee shall submit the required performance test notifications and reports referenced under the 'General Performance Test Requirements' in Table A, subject item "Total Facility."	Minn. R. ch. 7017
Initial Performance Test: due 180 days after Initial Startup or 180 days after November 12, 2004, whichever is later, to measure CO emissions according to Table 5 in part 63, subpart DDDDD. See the 'Performance Test Notifications and Submittals' requirement in the Total Facility section of Table A of this permit for additional testing-related requirements. The Permittee undertook initial compliance demonstration, with subpart DDDDD, through performance testing conducted on May 10, 2005, while firing natural gas, and on September 21, 2005, while firing distillate oil.	40 CFR Sections 63.7510(c) and 63.7510(e); 40 CFR Sections 63.7(a)(2); Minn. R. 7017.2020, subp. 1
Performance Test: due before end of each calendar year following Initial Performance Test to measure CO emissions. The Permittee shall then conduct annual performance tests according to 40 CFR Section 63.7520. Each annual performance test must conducted 10 to 12 months after the previous performance test.	40 CFR Sections 63.7510(c) and 63.7515(e); 40 CFR Section 63.7(a)(3); Minn. R. 7017.2020, subp. 1
Performance Test Procedures: The Permittee shall conduct all performance tests according to 40 CFR Section 63.7(c), (d), (f), and (h) and 40 CFR 63.7520(a) through (g), as applicable, and Minn. R. ch. 7017.	40 CFR Section 63.7520; 40 CFR Section 63.7(c), (d), (e), (f), and (h)
Performance Test Notification: Notification of Intent to conduct a performance test due 30 days before scheduled Performance Test (for CO) for each performance test required by subpart DDDDD. See the 'Performance Test Notifications and Submittals' requirement in the Total Facility section of Table A of this permit for additional testing-related requirements.	40 CFR Section 63.7545(d); Minn. R. 7017.2030, subp. 1
Performance Test Report Continued: In addition, the results of the performance test shall be submitted as part of the notification of the compliance status required under 40 CFR Section 63.9(h). For performance tests, the Permittee shall follow the data analysis, recordkeeping, and reporting requirements in 40 CFR Section 63.7(g).	40 CFR Section 63.7515(g); 40 CFR Section 63.7(g) and 63.10(d)(2); Minn. R. 7017.2035, subp. 2 (performance test only)
NESHAP SUBMITTALS	hdr
Initial Notification: due 120 days after 11/12/04. The Initial Notification must include the information required in paragraphs (b)(1) and (2) of 40 CFR 63.7545(b), as applicable. The Permittee submitted the Initial Notification on March 10, 2005.	40 CFR 63.7545(b)
Semiannual Compliance Report: due 31 days after end of each calendar half-year ending June 30 or December 31 whichever date is the first date that occurs at least 180 days after Nov. 12, 2004. The compliance report must contain the information required in 63.7550(c)(1) through (11), as applicable. If the Permittee only combusts natural gas and distillate oil, include a signed statement indicating that the Permittee combusted only natural gas and/or distillate oil during the reporting period.	40 CFR Section 63.7506(a)(2) and 63.7550
Submittals from General Provisions: The Permittee shall submit all of the notifications in 40 CFR Sections 63.7(b) and (c), 63.8(e), (f)(4) and (6), and 63.9(b) through (h), that apply, by the dates specified.	40 CFR Section 63.7545(a)
Deviations (1): The Permittee shall report each deviation from an applicable emission limit, operating limit, and work practice standard in Tables 1 through 4 of subpart DDDDD that apply. The Permittee must also report each instance during a startup, shutdown, or malfunction when each applicable emission limit, operating limit, and work practice standard was not met. These instances are deviations from the emission limits and work practice standards in subpart DDDDD. The Permittee shall report these deviations according to the requirements in 40 CFR Section 63.7550.	40 CFR Section 63.7540(b)
Deviations (2): Consistent with 40 CFR Sections 63.6(e) and 63.7(e)(1), deviations from requirements of 40 CFR pt. 63 that occur during a period of startup, shutdown, or malfunction are not violations if the Permittee can demonstrate to the EPA Administrator's satisfaction that they were operating in accordance with their SSMP. The EPA Administrator will determine whether deviations that occur during a period of startup, shutdown, or malfunction are violations, according to the provisions in 40 CFR Section 63.6(e).	40 CFR Section 63.7540(d)

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 005

Deviations (3): For deviation from an emission limit or operating limit amd work place standard that occurs, the compliance report must contain the information in Section 63.7550(c)(1) through (10) and the information required in Section 63.7550 (d)(1) through (4). This includes periods of startup, shutdown, and malfunction.	40 CFR Section 63.7550(d)
Deviations Report: The Permittee must report all deviations as defined in subpart DDDDD with the Notifications of Deviations Endangering Human Health or the Environment or in the Semi-Annual Deviations Report required elsewhere in this permit, whichever is applicable.	40 CFR Section 63.7550(f)
Immediate Startup, Shutdown, and Malfunction Report (SSMR): The Permittee must submit an immediate SSMR if EU 026 or EU 037 had a startup, shutdown, or malfunction during the reporting period that is not consistent with the Permittee's SSMP, and the boiler exceeded any applicable emission limit in subpart DDDDD. The report must contain: 1). Actions taken for the event; 2). The name, title, and signature of a responsible official who is certifying its accuracy; 3). An explanation of the circumstances of the event; 4). The reasons for not following the SSMP; and, 5). Whether any excess emissions and/or parameter monitoring exceedances are believed to have occurred. The Permittee must submit the report: 1). By fax or telephone within 2 working days after starting actions inconsistent with the plan; and, 2). By letter within 7 working days after the end of the event unless the Permittee has made alternative arrangements with the Administrator.	40 CFR Section 63.7550(a), Table 9, item 2; 40 CFR Sections 63.6(e)(3)(iv) and 63.10(d)(5)(ii)
Periodic Startup, Shutdown, Malfunction Reports (SSMP Reports). The Permittee shall submit SSMP Reports only if there is an occurrence of startup, shutdown, or malfunction during the reporting period and shall be delivered or postmarked by the 30th day following the end of each calendar half year. The content of the report shall be as required by 40 CFR Section 63.10(d)(5)(i).	40 CFR Section 63.10(d)(5)(i)
Submit Changes in Previous Information: Any change in the information already provided under 40 CFR Section 63.9 shall be provided within 15 calendar days after the change.	40 CFR Section 63.9(j)
OPERATING SCENARIO #2: NATURAL GAS, DISTILLATE FUEL OIL, AND BIODIESEL FUEL COMBUSTION (All of the above Operating Scenario #1 requirements remain in place. In addition, the following NESHAP requirements are applicable due to the combustion of biodiesel fuel.)	hdr
SCENARIO #2 NESHAP EMISSION AND OPERATIONAL LIMITS	hdr
Total Particulate Matter: less than or equal to 0.03 lbs/million Btu heat input , as measured by the average of 3 performance test runs. This limit applies at all times except during periods of startup, shutdown, and malfunction.	40 CFR Section 63.7500(a)(1); 40 CFR Section 63.7505(a); Table 1 of part 63, DDDDD
Hydrogen Chloride: less than or equal to 0.0005 lbs/million Btu heat input. This limit applies at all times except during periods of startup, shutdown, and malfunction.	40 CFR Section 63.7500(a)(1); 40 CFR Section 63.7505(a); Table 1 of part 63, DDDDD
Hydrogen Chloride Operating Limit: The Permittee shall maintain the fuel type or fuel mixture such that the HCl emission rate calculated according to 40 CFR Section 63.7530(d)(3) is less than the emission limit for HCl.	40 CFR Section 63.7500(a)(2); 40 CFR Section 63.7505(c); Table 4 of part 63, DDDDD
SCENARIO #2 MONITORING AND RECORDKEEPING	hdr
New Fuel Types: If the Permittee plans to burn a new type of fuel, the HCl emission rate must be recalculated, using the equation found under the "HCl Emission Limit Initial Compliance' Requirement, in accordance to the following: i) The chlorine concentration for any new fuel type shall be determined in pounds per million Btu, according to the provisions of the Permittee's site-specific fuel analysis plan. ii) Determine the new mixture of fuels that will have the highest content of chlorine. iii) Recalculate the HCl emission rate from the boiler, under these new conditions using the above equation. The recalculated HCl emission rate must be less than the applicable emission limit. A permit amendment will still be needed to authorize any new fuel type not authorized by this permit.	40 CFR Section 63.7540(a)(3)

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 005

Boiler Records: The Permittee must also keep the following records for each boiler: (1) Monthly fuel use by each boiler, including the type(s) of fuel, amount(s) used, and mixtures of fuels burned; and, (2) A copy of all calculations and supporting documentation of HCl emission rates, using Equation 9 of 40 CFR Section 63.7530, that were done to demonstrate compliance with the HCl emission limit. Supporting documentation should include results of any fuel analyses and basis for the estimates of HCl emission rates. The Permittee can use the results from one fuel analysis for multiple boilers, provided they are all burning the same fuel type. However, HCl emission limit must be calculated for each boiler.	40 CFR Section 63.7540(a)(2); 40 CFR Section 63.7555(d)
Site-Specific Monitoring Plan: The Permittee shall develop and implement a site-specific monitoring plan according to the requirements of Section 63.7505(d)(1) through (d)(4) for PM and CO emissions.	40 CFR Section 63.7505(d); 40 CFR Section 63.7535(a)
SCENARIO #2 NESHAP PERFORMANCE TESTING AND FUEL ANALYSIS	hdr
Initial Performance Test: due 180 days after commencement of biodiesel combustion in either EU 026 and EU 027 to measure PM emissions according to Table 5 in part 63, subpart DDDDD. See the 'Performance Test Notifications and Submittals' requirement in the Total Facility section of Table A of this permit for additional testing-related requirements.	40 CFR Sections 63.7510(a) and 63.7510(e); 40 CFR Section 63.7(a)(2); Minn. R. 7017.2020, subp. 1
Annual Performance Test: due before the end of each year after the Initial Performance Test to measure PM emissions. The Permittee shall conduct annual performance tests according to 40 CFR Section 63.7520. Each annual performance tests shall be conducted 10 to 12 months after the previous performance test, except as allowed by 40 CFR Section 63.7515(b) through (d).	40 CFR Sections 63.7515(a); 40 CFR Section 63.7(a)(3); Minn. R. 7017.2020, subp. 1
Initial Fuel Analysis: due 180 days after commencement of biodiesel combustion in either EU 026 and EU 027. The Permittee shall conduct all fuel analyses according to 40 CFR Section 63.7521 and Table 6 in part 63, subpart DDDDD and establish maximum fuel pollutant input levels according to 40 CFR Section 63.7530(c)(1) and Table 8 in part 63, subpart DDDDD.	40 CFR Section 63.7510(b) and (e)
Subsequent Fuel Analysis: due 1826 days after Initial Fuel Analysis of HCl for each type of fuel burned in EU 026 and EU 027. The Permittee shall conduct all fuel analyses according to 40 CFR Section 63.7521 and Table 6 in part 63, subpart DDDDD. If the Permittee burns a new type of fuel, the Permittee must conduct a fuel analysis before burning the new type of fuel in EU 026 or EU 027 and obtain the appropriate permit amendment if the fuel type is not authorized by this permit. The Permittee must still meet all applicable continuous compliance requirements in 40 CFR Section 63.7540.	40 CFR Section 63.7515(a) and (f)
Fuel Analysis Requirements: The Permittee must conduct all fuel analyses according to the procedures in 40 CFR Section 63.7521(b) through (e) and Table 6 of part 63, subpart DDDDD, as applicable. The Permittee must follow the procedures in 40 CFR Section 63.7530(d)(1), (2), and (3).	40 CFR Section 63.7521(a) and 63.7530(d)
Fuel Analysis Plan: due 60 days before Fuel Analysis for EPA review and approval. The Permittee must include the information contained in 40 CFR Section 63.7521(b)(2), as applicable, in the fuel analysis plan.	40 CFR Section 63.7521(b)
Performance Test Notification: Notification of Intent to conduct a performance test due 30 days before scheduled Performance Test (for PM) for each performance test required by subpart DDDDD. See the 'Performance Test Notifications and Submittals' requirement in the Total Facility section of Table A of this permit for additional testing-related requirements.	40 CFR Section 63.7545(d); Minn. R. 7017.2030, subp. 1
Performance Test Report Continued: In addition, the results of the performance test shall be submitted as part of the notification of the compliance status required under 40 CFR Section 63.9(h). For performance tests, the Permittee shall follow the data analysis, recordkeeping, and reporting requirements in 40 CFR Section 63.7(g).	40 CFR Section 63.7515(g); 40 CFR Section 63.7(g) and 63.10(d)(2); Minn. R. 7017.2035, subp. 2

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 005

HCl Emission Limit Initial Compliance: The Permittee shall conduct fuel analyses according to Section 63.7521 and follow the procedures in Section 63.7530 (d)(1) through (5): 1) If the Permittee burns more than one fuel type, determine the fuel mixture, which which could be burned in the boiler that results in the maximum HCl emission rates. 2) Determine the 90th percentile confidence level fuel HCl concentration of the composite samples analyzed for each fuel type using the following one-sided z-statistic test: P90 = mean + (SD x t) Where: P90 = 90th percentile confidence level pollutant concentration, in pounds per million Btu. mean = Arthimetic average of the fuel pollutant concentration in the fuel samples analyzed according to Section 63.7521, in pounds per million Btu. SD = Standard deviation of the pollutant concentration in the fuel samples analyzed according to Section 63.7521, in pounds per million Btu.	40 CFR Section 63.7530(d)
Following the date on which the initial performance test is completed or is required to be completed, which ever date comes first, the Permittee shall not operate above any of the applicable maximum operating limits, except during periods of startup, shutdown, and malfunction. Operating limits do not apply during performance tests. Operation above the established maximum operating limits shall constitute a deviation of established operating limits.	40 CFR Section 63.7540(a)(1)
HCl Emission Limit Initial Compliance Continued: t = t distribution critical value for 90th percentile (0.1) probability for the appropriate degrees of freedom (number of samples minus one) as obtained from a Distribution Critical Value Table. 3) To demonstrate compliance with the applicable HCL emission limit, the HCl emission rate that the Permittee calculates for the boiler, using the following equation, must be less than the applicable emission limit for HCl. HCl = The sum of i= 1 to n [(Ci90)(Qi)(1.028) Where: HCl = HCl emission rate from the boiler, in pounds per million Btu. Ci90 = 90th percentile confidence level concentration of chlorine in fuel type, i, in pounds per million Btu, as calculated in the above equation as P90. Qi = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest content of chlorine. If multiple fuel types are not burned, insert a value of "1." for Qi.	40 CFR Section 63.7530(d)
HCl Emission Limit Initial Compliance Continued: n = number of different fuel types burned in the boiler for the mixture that has the highest content of chlorine. 1.028 = Molecular weight ratio of HCl to chlorine.	40 CFR Section 63.7530(d)
SCENARIO #2 NESHAP SUBMITTALS	hdr
Submit: due 60 days after Fuel Analysis the results of the HCl fuel analysis. This report should also verify that the operating limits have not changed or provide documentation of revised operating parameters.	40 CFR Section 63.7515(g)

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 005

Subject Item: EU 001 Receiving

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.003 grains/dry standard cubic foot using 3-hour Average .	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j); also meets the requirements of 40 CFR 60.302(b)(1) and Minn. R. 7011.1005, subp. 2
Particulate Matter < 10 micron: less than or equal to 0.003 grains/dry standard cubic foot using 3-hour Average .	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Opacity: less than or equal to 0 percent for any process emissions.	40 CFR Section 60.302(b)(2); Minn. R. 7011.1005, subp. 2
Opacity: less than or equal to 5 percent for fugitive emissions from any grain unloading station	40 CFR Section 60.302(c)(1); Minn. R. 7011.1005, subp. 2
Opacity: less than or equal to 0 percent for any fugitive emissions from grain handling operations	40 CFR Section 60.302(c)(2); Minn. R. 7011.1005, subp. 2
OPERATING REQUIREMENTS	hdr
Clean up commodities spilled on facility property, as required, to minimize emissions to a level required with RACT	Minn. R. 7011.1005, subp. 1
Maintain air pollution control equipment in proper operating condition and utilize the air pollution control systems as designed. See GP 002 for Fabric Filter requirements.	Minn. R. 7011.1005, subp. 1
Maintain total enclosure around the grain truck for the entire grain receiving by complete closure of all doors on the grain receiving building.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
RECORDING REQUIREMENTS	hdr
PERFORMANCE TESTS	hdr
Initial Performance Test: due 180 days after 12/08/2003 to measure PM (PM to include organic condensables). For additional applicable performance test requirements see 'General Performance Test Requirements' in Table A, subject Item "Total Facility." The test was completed October 12, 2004.	Title I Condition: BACT Limit as per 40 CFR 52.21(j); 40 CFR Section 60.303(b); 40 CFR Section 60.8(a); Minn. R. 7011.1005, subp. 2
Initial Performance Test: due 180 days after Startup to measure Opacity. For additional applicable performance test requirements see 'General Performance Test Requirements' in Table A, subject item "Total Facility."	40 CFR Section 60.303(b); 40 CFR Section 60.8(a); Minn. R. 7011.1005, subp. 2
Initial Performance Test: due 180 days after 12/08/2003 to measure PM10. For additional applicable performance test requirements see 'General Performance Test Requirements' in Table A, subject item "Total Facility." The permittee completed the test October 12, 2004	Minn. R. 7007.0800, subp. 4; Minn. R. 7017.2020, subp. 1
Performance Test: due before end of each calendar 60 months starting 10/12/2004 to measure PM for EU 001.	Minn. R. 7007.0800, subp. 4; Minn. R. 7017.2020, subp. 1
Performance Test: due before end of each calendar 36 months starting 10/12/2004 to measure PM10 for EU 001.	Minn. R. 7007.0800, subp. 4; Minn. R. 7017.2020, subp. 1

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 005

Subject Item: EU 002 Grain Elevator Transfer

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.005 grains/dry standard cubic foot using 1-Hour Average	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j); also meets the requirements of 40 CFR 60.302(b)(1) and Minn. R. 7011.1005, subp. 2
Particulate Matter < 10 micron: less than or equal to 0.005 grains/dry standard cubic foot using 3-hour Average	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Opacity: less than or equal to 0 percent from any process emissions	40 CFR Section 60.302(b)(2); Minn. R. 7011.1005, subp. 2
Opacity: less than or equal to 0 percent for any fugitive emissions from grain handling operations	40 CFR Section 60.302(c)(2); Minn. R. 7011.1005, subp. 2
OPERATING REQUIREMENTS	hdr
Clean up commodities spilled on facility property, as required, to minimize emissions to a level required with RACT	Minn. R. 7011.1005, subp. 1
Maintain air pollution control equipment in proper operating condition and utilize the air pollution control systems as designed. See GP 002 for Fabric Filter requirements.	Minn. R. 7011.1005, subp. 1
REPORTING REQUIREMENTS	hdr
PERFORMANCE TESTS	hdr
Initial Performance Test: due 180 days after 12/08/2003 to measure PM (PM to include organic condensibles). For additional applicable performance test requirements see 'General Performance Test Requirements' in Table A, subject Item "Total Facility." The permittee completed the test April 27, 2004.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j); 40 CFR Section 60.303(b); 40 CFR Section 60.8(a); Minn. R. 7011.1005, subp. 2
Initial Performance Test: due 180 days after 12/08/2003 to measure Opacity. For additional applicable performance test requirements see 'General Performance Test Requirements' in Table A, subject item "Total Facility." The test was completed April 27, 2004.	40 CFR Section 60.303(b); 40 CFR Section 60.8(a); Minn. R. 7011.1005, subp. 2
Initial Performance Test: due 180 days after 12/08/2003 to measure PM10. For additional applicable performance test requirements see 'General Performance Test Requirements' in Table A, subject item "Total Facility." The test was completed April 27, 2004.	Minn. R. 7007.0800, subp. 4
Performance Test: due before end of each calendar 60 months starting 04/27/2004 to measure PM for EU 002.	Minn. R. 7007.0800, subp. 4; Minn. R. 7017.2020, subp. 1
Performance Test: due before end of each calendar 60 months starting 04/27/2004 to measure PM10 for EU 002.	Minn. R. 7007.0800, subp. 4; Minn. R. 7017.2020, subp. 1

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 005

Subject Item: EU 003 Bean Cleaning

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.003 grains/dry standard cubic foot using 1-Hour Average .	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Particulate Matter < 10 micron: less than or equal to 0.003 grains/dry standard cubic foot .	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Opacity: less than or equal to 20 percent	Minn. R. 7011.0715, subp. 1(B)
OPERATING REQUIREMENTS	hdr
Fabric filters for each individual stack shall be operated at all times when the emission unit is in operation. See GP 002 for Fabric Filter requirements.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Cyclones for each individual stack shall be operated at all times whenever the emission unit vented to that stack is in operation.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Install and maintain a monitoring device in each cyclone that will continuously monitor for plugging of the cyclone. The monitoring devices will be connected to audible and visible alarms to indicate plugging or failure of the probe.	Title I Condition: BACT Limit as per 40 CFR Section 52.21; Minn. R. 7007.0800, subp. 14
The monitoring devices and alarm system shall be operated whenever the corresponding cyclone is operating.	Minn. R. 7007.0800, subps. 4 & 5
Inspect each cyclone quarterly, or as required by manufacturing specifications, all components that are not subject to wear or plugging, including structural components, housing, ducts, and hoods. Maintain a written record of the inspection and any action resulting from the inspection.	Minn. R. 7007.0800, subps. 2, 5, and 14
Inspect each cyclone quarterly, or as required by manufacturing specifications, all components that are subject to wear or plugging. Maintain a written record of the inspection and any action resulting from the inspection.	Minn. R. 7007.0800, subps. 2, 5, and 14
PERFORMANCE TESTS	hdr
Initial Performance Test: due 180 days after 12/08/2003 to measure PM10 for the stack vent. For additional applicable performance test requirements see 'General Performance Test Requirements' in Table A, subject item "Total Facility." The test was completed April 27, 2004.	Minn. R. 7007.0800, subp. 4
Performance Test: due before end of each calendar 60 months starting 04/27/2004 to measure PM10 for EU 003.	Minn. R. 7007.0800, subp. 4; Minn. R. 7017.2020, subp. 1

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 005

Subject Item: EU 020 Meal Grinding

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.003 grains/dry standard cubic foot using 1-Hour Average .	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Particulate Matter < 10 micron: less than or equal to 0.003 grains/dry standard cubic foot .	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Opacity: less than or equal to 20 percent	Minn. R. 7011.0715, subp. 1(B)
OPERATING REQUIREMENTS	hdr
Fabric filters for each individual stack shall be operated at all times when the emission unit is in operation. See GP 002 for Fabric Filter requirements	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Maintain air pollution control equipment in proper operating condition and utilize the air pollution control systems as designed. See GP 002 for Fabric Filter requirements.	Minn. R. 7011.1005, subp. 1

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 005

Subject Item: EU 021 Meal Bin

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.005 grains/actual cubic foot using 1-Hour Average	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j); also meets the requirements of 7011.1005, subp. 3(D)
Particulate Matter < 10 micron: less than or equal to 0.005 grains/dry standard cubic foot using 3-hour Average	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Opacity: less than or equal to 10 percent	Minn. R. 7011.1005, subp. 3(D)
OPERATING REQUIRMENTS	hdr
Fabric filters for each individual stack shall be operated at all times when the emission unit is in operation.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Clean up commodities spilled on facility property, as required, to minimize emissions to a level required with RACT.	Minn. R. 7011.1005, subp. 1
Maintain air pollution control equipment in proper operating condition and utilize the air pollution control systems as designed. See GP 002 for Fabric Filter requirements.	Minn. R. 7011.1005, subp. 1

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 005

Subject Item: EU 028 Fire Pump Engine

What to do	Why to do it
EMISSION LIMITS	hdr
Opacity: less than or equal to 20 percent	Minn. R. 7011.2300, subp. 1
Sulfur Dioxide: less than or equal to 0.5 lbs/million Btu heat input (0.29 lbs/million Btu per equipment design).	Minn. R. 7011.2300, subp. 1
OPERATING CONDITIONS	hdr
Operating Hours: less than or equal to 500 hours/year	Title I Condition: Limit to avoid classification as major for SO2 under 40 CFR Section 52.21
Fuel Type: No. 2 distillate fuel only, by design.	Minn. R. 7005.0100, supb. 35a
Operation: emergency usage, training, or testing purposes only.	Minn. R. 7007.0800, subp. 2
RECORDKEEPING REQUIREMENTS	hdr
Recordkeeping -- Hours of Operation: The Permittee shall maintain documentation on-site for the hours of operation that the unit is to be used for emergency, training, or testing purposes.	Minn. R. 7007.0800, subps. 4 and 5
Recordkeeping -- Fuel Type: The Permittee shall keep records of the type of fuel burned in EU 028 when in operation.	Minn. R. 7007.0800, subps. 4 and 5
Fuel Supplier Certification: Obtain and maintain a fuel supplier certification for each shipment of No. 2 distillate oil, certifying that the sulfur content does not exceed 0.5% by weight.	Minn. R. 7007.0800, subps. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 005

Subject Item: EU 031 Genset (Emergency)

What to do	Why to do it
EMISSION LIMITS	hdr
Opacity: less than or equal to 20 percent	Minn. R. 7011.2300, subp. 1
Sulfur Dioxide: less than or equal to 0.5 lbs/million Btu heat input (0.29 lbs/million Btu per equipment design).	Minn. R. 7011.2300, subp. 1
OPERATING CONDITIONS	hdr
Fuel Type: No. 2 distillate fuel only, by design.	Minn. R. 7005.0100, supb. 35a
Operation: emergency usage, training, or testing purposes only.	Minn. R. 7007.0800, subp. 2
Alternative Operating Scenario: Other than for limited testing/training purposes, the emergency generator is only allowed to operate for providing power to the compressed air system, the cooling water pumps, and the emergency lighting during the event of a power outage.	Title I Condition: BACT limit as per 40 CFR Section 52.21(j)
RECORDKEEPING REQUIREMENTS	hdr
Recordkeeping -- Hours of Operation: The Permittee shall maintain documentation on-site that the unit is to be used for emergency (including training and testing) purposes only that qualifies under the U.S. EPA memorandum entitled "Calculating Potential to Emit (PTE) for Emergency Generators" dated September 6, 1995, limiting operation to hours per year.	Minn. R. 7007.0800, subps. 4 and 5
Recordkeeping -- Fuel Type: The Permittee shall keep records of the type of fuel burned in EU 031 when in operation.	Minn. R. 7007.0800, subps. 4 and 5
Fuel Supplier Certification: Obtain and maintain a fuel supplier certification for each shipment of No. 2 distillate oil, certifying that the sulfur content does not exceed 0.5% by weight.	Minn. R. 7007.0800, subps. 4 and 5

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 005

Subject Item: FS 003 Soybean Pile

What to do	Why to do it
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
Operation: During soybean piling, the free fall height between conveyance drop point and top of soybean pile shall not exceed 5 feet.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
All paved roads and areas shall be cleaned to minimize the discharge to the atmosphere of fugitive particulate emissions. Such cleaning shall be accomplished in a manner which minimizes the resuspension of particulate matter.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Clean up all bean/bean material spilled on roads or access areas, as soon as practicable, using methods that minimize the amount of dust suspended.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 005

Subject Item: FS 005 Fugitive Biodiesel Production Emissions

What to do	Why to do it
STANDARDS: GENERAL	hdr
The Permittee shall demonstrate compliance with the requirements of 40 CFR 60.482-1 through 60.482-9 or 40 CFR 60.480(e) for all equipment within 180 day of initial startup.	40 CFR 60.482-1(a)
STANDARDS: PUMP IN LIGHT LIQUID SERVICE	hdr
(1) Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in 40 CFR 60.485(b), except as provided in 40 CFR 60.482-2(e) and (f). (2) Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal.	40 CFR 60.482-2(a)
(1) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected. (2) If there are indications of liquids dripping from the pump seal, a leak is detected.	40 CFR 60.482-2(b)
(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 40 CFR 60.482-9. (2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.	40 CFR 60.482-2(c)
Any pump that is designated, as described in 40 CFR 60.486(f)(1), as an unsafe-to-monitor pump is exempt from the monitoring and inspection requirements of 40 CFR 60.482-2(a) and (d)(4) through (6) if: (1) The Permittee demonstrates that the pump is unsafe-to-monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with 40 CFR 60.482-2(a); and (2) The Permittee 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 40 CFR 60.482-2(c) if a leak is detected.	40 CFR 60.482-2(g)
STANDARDS: COMPRESSORS	hdr
Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of VOC to the atmosphere, except as provided in 40 CFR 60.482-1(c) and paragraph (h) and (i) of 40 CFR 60.482-3.	40 CFR 60.482-3(a)
Each compressor seal system as required in paragraph 40 CFR 60.482-3(a) shall be: (1) Operated with the barrier fluid at a pressure that is greater than the compressor stuffing box pressure; or (2) Equipped with a barrier fluid system degassing reservoir that is routed to a process or fuel gas system; or (3) Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere.	40 CFR 60.482-3(b)
The barrier fluid system shall be in heavy liquid service or shall not be in VOC service.	40 CFR 60.482-3(c)
Each barrier fluid system as described in 40 CFR 60.482-3(a) shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.	40 CFR 60.482-3(d)
(1) Each sensor as required in paragraph 40 CFR 60.482-3(d) shall be checked daily or shall be equipped with an audible alarm. (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.	40 CFR 60.482-3(e)
If the sensor indicates failure of the seal system, the barrier system, or both based on the criterion determined under 40 CFR 60.482-3(e)(2), a leak is detected.	40 CFR 60.482-3(f)

(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 40 CFR 60.482-9. (2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.	40 CFR 60.482-3(g)
Any compressor that is designated, as described in 40 CFR 60.486(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 40 CFR 60.482-3(a)-(h) if the compressor: (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 40 CFR 60.485(c); and (2) Is tested for compliance with paragraph 40 CFR 60.482-3(i)(1) of this section initially upon designation, annually, and at other times requested by the MPCA.	40 CFR 60.482-3(i)
STANDARDS: PRESSURE RELIEF DEVICE IN GAS/VAPOR SERVICE	hdr
Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as determined by the methods specified in 40 CFR 60.485(c).	40 CFR 60.482-4(a)
(1) After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after the pressure release, except as provided in 40 CFR 60.482-9. (2) No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the conditions of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, by the methods specified in 40 CFR 60.482-5(c).	40 CFR 60.482-4(b)
STANDARDS: VALVES	hdr
Each valve shall be monitored monthly to detect leaks by the methods specified in 40 CFR 60.485(b) and shall comply with 40 CFR 60.482-7 (b) - (e), except as provided in 60.482-7 (f), (g), and (h).	40 CFR 60.482-7(a)
If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.	40 CFR 60.482-7(b)
(1) Any valve for which a leak is not detected for 2 successive months may be monitored the first month of every quarter, beginning with the next quarter, until a leak is detected. (2) If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months.	40 CFR 60.482-7(c)
(1) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in 40 CFR 60.482-9. (2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.	40 CFR 60.482-7(d)
First attempts at repair include, but are not limited to, the following best practices where practicable: (1) Tightening of bonnet bolts; (2) Replacement of bonnet bolts; (3) Tightening of packing gland nuts; (4) Injection of lubricant into lubricated packing.	40 CFR 60.482-7(e)
Any valve that is designated, as described in 40 CFR 60.486(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 40 CFR 60.482-7(a) if the valve: (1) Has no external actuating mechanism in contact with the process fluid, (2) Is operated with emissions less than 500 ppm above background as determined by the method specified in 40 CFR 60.485(c), and (3) Is tested for compliance with 40 CFR 60.482-7(f)(2) initially upon designation, annually, and at other times requested by the MPCA.	40 CFR 60.482-7(f)

Any valve that is designated, as described in 40 CFR 60.486(f)(1), as an unsafe-to-monitor valve is exempt from the requirements of 40 CFR 60.482-7(a) if: (1) The Permittee demonstrates that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with the requirements of 40 CFR 60.482-7(a), and (2) The Permitttee adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.	40 CFR 60.482-7(g)
Any valve that is designated, as described in 40 CFR 60.486(f)(2), as a difficult-to-monitor valve is exempt from the requirements of 40 CFR 60.482(a) if: (1) The Permittee demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface. (2) The process unit within which the valve is located either becomes an affected facility through 40 CFR 60.14 or 40 CFR 60.15 or the Permittee designates less than 3.0 percent of the total number of valves as difficult-to-monitor, and (3) The Permittee of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.	40 CFR 60.482-7(h)
STANDARDS: PUMPS AND VALVES IN HEAVY LIQUID SERVICE, PRESSURE RELIEF DEVICES IN LIGHT LIQUID OR HEAVY LIQUID SERVICE, AND CONNECTORS	hdr
If evidence of a potential leak is found by visual, audible, olfactory, or any other detection method at pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors, the Permittee shall follow either one of the following procedures: (1) The Permittee shall monitor the equipment within 5 days by the method specified in 40 CFR 60.485(b) and shall comply with the requirements of 40 CFR 60.482-8(b) through (d). (2) The Permittee shall eliminate the visual, audible, olfactory, or other indication of a potential leak.	40 CFR 60.482-8(a)
If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.	40 CFR 60.482-8(b)
(1) When a leak is detected, it shall be repaired as soon as practicable but not later than 15 calendar days after it is detected, except as provided in 40 CFR 60.482-9. (2) The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.	40 CFR 60.482-8(c)
First attempts at repair include, but are not limited to, the best practices described under 40 CFR 60.482-7(e).	40 CFR 60.482-8(d)
STANDARDS: DELAY OF REPAIR	hdr
Delay of repair of equipment for which leaks have been detected will be allowed if repair within 15 days in technically infeasible without a process unit shutdown. Repair of this equipement shall occur before the end of the next process unit shutdown.	40 CFR 60.482-9(a)
Delay of repair of equipment will be allowed for equipment which is isolated from the process and which does not remain in VOC service.	40 CFR 60.482-9(b)
Delay of repair for valves will be allowed if: (1) The Permittee demonstrates that emissions of purged material resulting from immediate repair are greater than the fugitive emissions likely to result from delay of repair, and (2) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with 40 CFR 60.482-10.	40 CFR 60.482-9(c)
Delay of repair for pumps will be allowed if: (1) Repair requires the use of a dual mechanical seal system that includes a barrier fluid system, and (2) Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.	40 CFR 60.482-9(d)
Delay of repair beyond a process unit shutdown will be allowed for a valve, if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next process unit shutdown will not be allowed unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.	40 CFR 60.482-9(e)

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 005

TESTING REQUIREMENTS:	hdr
In conducting the performance tests required in 40 CFR 60.8, the Permittee shall use as reference methods and procedures the test methods in 40 CFR 60, Appendix A or other methods and procedures as specified in 40 CFR 60.485, except as provided in 40 CFR 60.8(b).	40 CFR 60.485(a)
The Permittee shall determine compliance with the standards in 40 CFR 60.482 as follows: (1) Method 21 shall be used to determine the presence of leaking sources. The instrument shall be calibrated before use each day of its use by the procedures specified in Method 21. The following calibration gases shall be used: (i) Zero air (less than 10 ppm of hydrocarbon in air); and (ii) A mixture of methane of n-hexane and air at a concentration of about, but less than, 10,000 ppm methane or n-hexane.	40 CFR 60.485(b)
The Permittee shall determine compliance with the no detectable emission standards in 40 CFR 60.482-3(i), 40 CFR 60.482-4, and 40 CFR 60.482-7(f) as follows: (1) The requirements of paragraph 40 CFR 60.485(b) shall apply. (2) Method 21 shall be used to determine the background level. All potential leak interfaces shall be traversed as close to the interface as possible. The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.	40 CFR 60.485(c)
The Permittee shall test each piece of equipment unless it is demonstrated that a process unit is not in VOC service i.e., that the VOC content would never be reasonably expected to exceed 10 percent by weight. For purposes of this demonstration, the following methods and procedures shall be used: (1) Procedures that conform to the general methods in ASTM E260-73, 91, or 96, E168-67, 77, or 93 (incorporated by reference -- see 40 CFR 60.17) shall be used to determine the percent VOC content in the process fluid that is contained in or contacts a piece of equipment. (2) Organic compounds that are considered by the MPCA to have negligible photochemical reactivity may be excluded from the total quantity of organic compounds in determining the VOC content of the process fluid.	40 CFR 60.485(d)
(3) Engineering judgment may be used to estimate the VOC content, if a piece of equipment had not been shown previously to be in service. If the MPCA disagrees with the judgment, 40 CFR 60.485 (d) (1) and (2) shall be used to resolve the judgment.	40 CFR 60.485(d) CONTINUED
The Permittee shall demonstrate that an equipment is in light liquid service by showing that all the following conditions apply: (1) The vapor pressure of one or more of the components is greater than 0.3 kPa at 20 Celsius (1.2 in. H2O at 68 Fahrenheit) Standard reference texts or ASTM D2879-83, 96, or 97 (incorporated by reference -- see 40 CFR 60.17) shall be used to determine the vapor pressures. (2) The total concentration of the pure components having a vapor pressure greater than 0.3 kPa at 20 Celsius (1.2 in. H2O at 68 Fahrenheit) is equal to or greater than 20 percent by weight. (3) The fluid is a liquid at operating conditions.	40 CFR 60.485(e)
Samples used in conjunction with 40 CFR 60.485 (d) and (e) shall be representative of the process fluid that is contained in or contacts the equipment.	40 CFR 60.485(f)
RECORDKEEPING REQUIREMENTS:	hdr
When each leak is detected as specified in 40 CFR 60.482-2, 40 CFR 60.482-3, 40 CFR 60.482-7, and 40 CFR 60.482-8, the following requirements apply: (1) a weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment. (2) The identification on a valve may be removed after it has been monitored for 2 successive months as specified in 40 CFR 60.482-7(c) and no leak has been detected during those 2 months. (3) The identification on equipment except on a valve, may be removed after it has been repaired.	40 CFR 60.486(b)

When each leak is detected as specified in 40 CFR 60.482-2, 40 CFR 60.482-3, 40 CFR 60.482-7, and 40 CFR 60.482-8, the following information shall be recorded in a log and shall be kept for 2 years in a readily accessible location: (1) The instrument and operator identification numbers and the equipment identification number. (2) The date the leak was detected and the dates of each attempt to repair the leak. (3) Repair methods applied in each attempt to repair the leak. (4) "Above 10,000" if the maximum instrument reading measured by the methods specified in 40 CFR 60.485(a) after each repair attempt is equal to or greater than 10,000 ppm. (5) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.	40 CFR 60.486(c)
(6) The signature of the Permittee whose decision it was that repair could not be effected without a process shutdown. (7) The expected date of successful repair of the leak if a leak is not repaired within 15 days. (8) Dates of process unit shutdowns that occur while the equipment is unrepaired. (9) The date of successful repair of the leak.	40 CFR 60.486(c) CONTINUED
The following information pertaining to all equipment subject to the requirements in 40 CFR 60.482-1 to 40 CFR 60.482-9 shall be recorded in a log that is kept in a readily accessible location: (1) A list of identification numbers for equipment subject to the requirements of 40 CFR 60.480. (2)(i) A list of identification numbers for equipment that are designated for no detectable emissions under the provisions of 40 CFR 60.482-3(i) and 40 CFR 60.482-7(f). (ii) The designation of equipment as subject to the requirements of 40 CFR 60.482-3(i) or 40 CFR 60.482-7(f) shall be signed by the Permittee. (3) A list of equipment identification numbers for pressure relief devices required to comply with 40 CFR 60.482-4.	40 CFR 60.486(e)
(4)(i) The dates of each compliance test as required in 40 CFR 60.482-3(i), 40 CFR 60.482-4, and 40 CFR 60.482-7(f). (ii) The background level measured during each compliance test. (iii) The maximum instrument reading measured at the equipment during each compliance test. (5) A list of identification numbers for equipment in vacuum service.	40 CFR 60.486(e) CONTINUED
The following information pertaining to all valves subject to the requirements of 40 CFR 60.482-7(g) and (h) and to all pumps subject to the requirements of 40 CFR 60.482-2(g) shall be recorded in a log that is kept in a readily accessible location: (1) A list of identification numbers for valves and pumps that are designated as unsafe-to-monitor, an explanation for each valve or pump stating why the valve or pump is unsafe-to-monitor, and the plan for monitoring each valve or pump. (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.	40 CFR 60.486(f)
The following information shall be recorded in a log that is kept in a readily accessible location: (1) Design criterion required in 40 CFR 60.482-3(e)(2) and explanation of the design criterion; and (2) Any changes to this criterion and the reasons for the changes.	40 CFR 60.486(h)

The following information shall be recorded in a log that is kept in a readily accessible location for use in determining exemptions as provided in 40 CFR 60.480(d): (1) An analysis demonstrating the design capacity of the affected facility, (2) A statement listing the feed or raw materials and products from the affected facilities and an analysis demonstrating whether these chemicals are heavy liquids or beverage alcohol, and (3) An analysis demonstrating that equipment is not in VOC service.	40 CFR 60.486(i)
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.	40 CFR 60.486(j)
REPORTING REQUIREMENTS:	hdr
The Permittee shall submit semiannual reports to the MPCA beginning 6 months after the initial startup date.	40 CFR 60.487(a)
The initial semiannual report to the MPCA shall include the following information: (1) Process unit identification. (2) Number of valves subject to the requirements of 40 CFR 60.482-7, excluding those valves designated for no detectable emissions under the provisions of 40 CFR 60.482-7(f). (3) Number of pumps subject to the requirements of 40 CFR 60.482-2. (4) Number of compressors subject to the requirements of 40 CFR 60.482-3, excluding those compressors designated for no detectable emissions under the provisions of 40 CFR 60.482-3(i).	40 CFR 60.487(b)
All semiannual reports to the MPCA shall include the following information, summarized from the information in 40 CFR 60.486: (1) Process unit identification. (2) For each month during the semiannual reporting period, (i) Number of valves for which leaks were detected as described in 40 CFR 60.482-(7)(b), (ii) Number of valves for which leaks were not repaired as required in 40 CFR 60.482-7(d)(1), (iii) Number of pumps for which leaks were detected as described in 40 CFR 60.482-2(b), (iv) Number of pumps for which leaks were not repaired as required in 40 CFR 60.482-2(c)(1),	40 CFR 60.487(c)
(v) Number of compressors for which leaks were detected as described in 40 CFR 60.482-3(f), (vi) Number of compressors for which leaks were not repaired as required in 40 CFR 60.482-3(g)(1), and (vii) The facts that explain each delay of repair and, where appropriate, why a process unit shutdown was technically infeasible.	40 CFR 60.487(c) CONTINUED
The Permittee shall report the results of all performance tests in accordance with 40 CFR 60.8 of the General Provisions. The provisions of 40 CFR 60.8(d) do not apply to affected facilities subject to the provisions of 40 CFR 60.480 except that the Permittee must notify the MPCA of the schedule for the initial performance tests at least 30 days before the initial performance tests.	40 CFR 60.487(e)
The requirements of 40 CFR 60.487(a) through (c) remain in force until and unless EPA, in delegating enforcement authority to a State under section 111(c) of the Act, approves reporting requirements or an alternative means of compliance surveillance adopted by such State. In that event, affected sources within the State will be relieved of the obligation to comply with the requirements of paragraphs (a) through (c) of this section, provided that they comply with the requirements established by the State.	40 CFR 60.487(f)

TABLE B: SUBMITTALS

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 005

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

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

Send any application for a permit or permit amendment to:

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

Also, where required by an applicable rule or permit condition, send to the Permit Technical Advisor notices of:
- accumulated insignificant activities,
- installation of control equipment,
- replacement of an emissions unit, and
- changes that contravene a permit term.

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

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

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

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

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

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

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 005

What to send	When to send	Portion of Facility Affected
Application for Permit Reissuance	due 180 days before expiration of Existing Permit	Total Facility
Notification of compliance status	due 60 days after Performance Test and/or other initial complaince demonstrations required by subpart DDDDD according to 40 CFR Section 63.9(h)(2)(ii) and Section 63.7545(e). For each initial compliance demonstration, the Permittee must submit the NOCS, including all performance test results and fuel analyses, according to 40 CFR Section 63.10(d)(2). The NOCS report must contain all the information specified in paragraphs 40 CFR Section 63.7545(e)(1) through (9), as applicable.	GP011
Notification of compliance status	due 60 days after Performance Test required by subpart DDDDD according to 40 CFR Section 63.9(h)(2)(ii) and Section 63.7545(e). For each initial compliance demonstration, the Permittee must submit the NOCS, including all performance test results, according to 40 CFR Section 63.10(d)(2). The NOCS report must contain all the information specified in paragraphs 40 CFR Section 63.7545(e)(1) through (9), as applicable. If the Permittee only combusts natural gas and distillate oil, include a signed statement indicating that the Permittee combusted only natural gas and/or distillate oil.	GP011
Notification of the Actual Date of Initial Startup	due 15 days after Initial Startup	EU001, EU002
Notification of the Date Construction Began	due 30 days after Start Of Construction	EU001, EU002
Performance Test Report	due 45 days after Performance Test required by subpart DDDDD. (The 45-day Minnesota requirement satisfies the 60-day subpart DDDDD requirement.) This report should also verify that the operating limits for EU 026 and EU 027 have not changed or shall provide documentation of revised operating parameters established according to 40 CFR Section 63.7530 and Table 7 of subpart DDDDD, as applicable. The reports for all subsequent performance tests should include all applicable information required in 40 CFR Section 63.7550.	GP011
Submittal	due 610 days after Initial Startup Certification of Compliance Status. This notification shall include: 1) name and address of owner; 2) physical address of facility; 3) type of oilseed type processed; 4) each HAP, present in purchased solvent, in concentrations greater than 1 percent by volume, during the initial compliance determination; 5) statement designating either being a major or area source; 6) compliance certification of Plan for Demonstrating Compliance and SSM as complete and available, procedures in Plan for Demonstrating Compliance are being followed, and compliance ratio is less than or equal to 1.00.	GP001
Testing Frequency Plan	due 60 days after Performance Test (-005) for both EU 026 and EU 027. The plan shall specify a testing frequency to measure opacity, NOx, PM10, VOC, and CO based on the biodiesel/biodiesel blends 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.	GP007

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 005

What to send	When to send	Portion of Facility Affected
Quarterly Report	due 30 days after end of each calendar quarter starting 04/07/2004. Keep records and submit quarterly reports. Each quarterly report shall be postmarked by the 30th day following the end of the reporting period. The quarterly report shall include both 1) the calendar dates covered in the reporting period, 2) a copy of all certifications of fuel deliveries for fuel oil burned during the quarter, and 3) a statement certifying that the records of fuel supplier certifications submitted represent all of the fuel combusted during the quarter, 4) a copy of any sulfur fuel analysis results from the quarter.	GP007
Semiannual Compliance Report	due 31 days after end of each calendar half-year following Startup The Semi-Annual Compliance Report must contain the following: 1). The information required in 40 CFR Section 63.7550(c)(1) through (11); 2). If there are no deviations from any emission limitation (emission limit and operating limit) that apply and there are no deviations from the requirements for work practice standards in Table 8 of subpart DDDDD that apply, a statement that there were no deviations from the emission limitations and work practice standards during the reporting period. 3). If the Permittee has a deviation from any emission limitation (emission limit and operating limit) or work practice standard during the reporting period, the report must contain the information in 40 CFR Section 63.7550(d) and (e), as applicable. 4). If a boiler had a startup, shutdown, or malfunction during the reporting period and the Permittee took actions consistent with the SSMP, the compliance report must include the information in 40 CFR Section 63.10(d)(5)(i).	GP011
Semiannual Deviations Report	due 30 days after end of each calendar half-year starting 12/19/2002. 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 occured, the Permittee shall submit the report stating no deviations.	Total Facility

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 005

Compliance Certification	due 31 days after end of each calendar year starting 12/19/2002 (for the previous calendar year). The Certification shall be submitted on a form approved by the Commissioner, both to the Commissioner, and to the U.S. EPA regional office in Chicago. This report covers all deviations experienced during the calendar year. The EPA copy shall be sent to: Mr. George Czerniak, Chief, Air Enforcement and Compliance Assurance Branch, Air and Radiation Division, EPA Region V, 77 West Jackson Boulevard, Chicago, Illinois 60604.	Total Facility
Compliance Certification	due 365 days after end of each calendar year following Notification of compliance status	GP001

APPENDIX MATERIAL
Facility Name: Minnesota Soybean Processors - Brewster
Permit Number: 10500053-005

INSIGNIFICANT ACTIVITIES

IA001 Laboratory
Basis: Minn. R. 7007.1300, subp. 3 G

IA002 Lime Silo (part of process water treatment)
Basis: Minn. R. 7007.1300, subp. 3 D

IA003 Soda Ash Silo (part of process water treatment)
Basis: Minn. R. 7007.1300, subp. 3D

IA004 Crude containment #1 – Baby bertha
Basis: Minn. R. 7007.1300, subp. 3(I)(2)

IA005 Crude containment #2 – Crude tank
Basis: Minn. R. 7007.1300, subp. 3(I)(2)

IA006 Crude containment #3 – RB storage
Basis: Minn. R. 7007.1300, subp. 3(I)(2)

IA007 Crude shift tank
Basis: Minn. R. 7007.1300, subp. 3(I)(2)

IA008 Phos. Treated oil tank #1
Basis: Minn. R. 7007.1300, subp. 3(I)(2)

IA009 Phos. Treated oil tank #2
Basis: Minn. R. 7007.1300, subp. 3(I)(2)

IA010 RB Shift tank #1
Basis: Minn. R. 7007.1300, subp. 3(I)(2)

IA011 RB Shift tank #2
Basis: Minn. R. 7007.1300, subp. 3(I)(2)

IA012 Rework tank
Basis: Minn. R. 7007.1300, subp. 3(I)(2)

IA013 Soapstock tank
Basis: Minn. R. 7007.1300, subp. 3(I)(2)

IA014 Sodium Hydroxide (caustic)

Basis: Minn. R. 7007.1300, subp. 3(I)(2)

IA015 Phosphoric acid tank
Basis: Minn. R. 7007.1300, subp. 3(I)(2)

IA016 HCL acid tank
Basis: Minn. R. 7007.1300, subp. 3(I)(2)

IA017 Fatty acid tank
Basis: Minn. R. 7007.1300, subp. 3(I)(2)

IA018 Biodiesel shift tank #1
Basis: Minn. R. 7007.1300, subp. 3(I)(2)

IA019 Biodiesel shift tank #2
Basis: Minn. R. 7007.1300, subp. 3(I)(2)

IA020 Biodiesel tank #3
Basis: Minn. R. 7007.1300, subp. 3(I)(2)

IA021 Glycerine tank
Basis: Minn. R. 7007.1300, subp. 3(I)(2)

IA022 Biodiesel rework tank
Basis: Minn. R. 7007.1300, subp. 3(I)(2)

TECHNICAL SUPPORT DOCUMENT
For
AIR EMISSION PERMIT NO. 10500053-005

This Technical Support Document (TSD) is intended for all parties interested in the draft/proposed 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:

1.1. Applicant and Stationary Source Location:

Owner and Operator Address and Phone Number (list both if different)	Facility Address (SIC Code: 2075)
Minnesota Soybean Processors	Corner 200th & Zeh Avenue Brewster, Nobles County, MN 56119 Contact: Mr. Steve Still Phone: (507) 842-6677

1.2. Description of the Facility and Previous Permit Actions

From the initial Permit (-001), Minnesota Soybean Processors (MnSP) was authorized to construct and operate a 3,000 ton per day soybean processing plant in the city of Brewster, Nobles County, Minnesota.

The overall facility can be divided into three main processes. The first process is the soybean extraction. This process converts the soybeans into "crude" oil. The second process is the "crude" oil refining. The third process is the bio-diesel manufacturing process.

First of all, the soybean extraction process is as follows. The facility at Brewster receives raw soybeans and process them, extracting crude soybean oil from the beans. By-products of the oil processing are soy meal and hulls, which are sold for animal feed.

Soybeans are delivered from the local farmers by semi-trailer truck. The soybeans are off-loaded and stored in bins having a storage capacity of 2.3 million bushels. From storage, the beans are sent to a screening and cleaning area in the preparation building where trash accompanying the beans is removed. From here, the beans are routed to the dehulling process. The hull of the bean are ground. The ground soybean hulls are usually formed into pellets and sold as animal feed. The meat of the bean is cracked into larger chunks, conditioned (heated) and then pressed into flakes. These materials are then sent to the extraction building.

The flakes are washed in the extraction building with a solvent, commercial hexane, to strip the oil from the flakes. The mixture of solids and solvent are separated. The solids, which are still laden with hexane, are sent to a meal desolventizer where they are heated and the solvent is volatilized. The solvent-free solids are then cooled, ground and stored as meal. This meal is sold as animal feed. The liquid removed from the solids consists of hexane, soybean oil and water and is called the miscella.

The miscella is separated into its components using distillation. The hexane is reused, the water disposed of and the oil, termed "crude oil," is stored. The crude oil can either be shipped off-site or refined.

Besides receiving, preparation and extraction, there is a weigh station, offices and a lab, a steam generation plant, maintenance, and warehousing. The steam plant contains two boilers. The steam plant currently fires natural gas and distillate oil.

The second process is the refining process. The refining process removes impurities contained in the crude oil. The refinery process, generally, consists of the following stages: refining, water wash, vacuum drying, bleaching, and deodorization. For example, the bleaching process removes trace amounts of undesirable compounds which affect the stability of the oil. After the refining process, one additional step is needed before the refined oil can be used as a food product. This facility does not perform that step. If the refined oil is to be used as a food product, the facility purchasing the refined oil will complete the last step. The refined oil can either be sold as nearly processed vegetable oil (for human consumption) or sent through the bio-diesel manufacturing process.

On December 19, 2002, the MPCA issued the air permit (-001). In December 2003, the soybean oil extraction facility began initial operation.

The third process is the bio-diesel manufacturing. This process converts the "refined" oil into a bio-diesel product. The "crude" oil must be "refined" before it can begin the bio-diesel process. Bio-diesel is produced from the reaction of the fatty acids in the "refined" oil with methanol in the presence of a catalyst. The reaction produces mono-alkyl esters (bio-diesels) and glycerol. The air application (-003) was for the construction of bio-diesel manufacturing process.

Table 1. Permit History

Permit Number	Date Issued	Description
-001	12/19/02	PSD permit for extraction and refining
-002	11/10/03	Modify boilers PM/PM_{10} limits
-003	5/14/04	Addition of bio-diesel manufacturing
-004	8/29/05	Baghouse pressure drop range change
-005		Current amendment proposal to combust biodiesel in the boilers

1.3 Description of the Activities Proposed by this Permit Action (-005)

1. Authorization to combust of biodiesel and blends of fuel oil with biodiesel in MnSP's Boiler #1 and #2 (EU 026 and EU 027).

   The boilers currently are allowed to fire up to 6,080,000 gallons of No. 2 distillate fuel per year (Best Available Control Technology (BACT) limit). The existing permit includes Title I conditions limiting Boiler #1 and #2 to using natural gas and low sulfur distillate fuel oil. Other than a 2-week "tuning" period to adjust the boiler settings, no modifications to the boilers will be required to combust biodiesel. MnSP proposes to continue to operate the boilers in accordance with the existing permit conditions. For this amendment action, biodiesel emissions are assumed to be equivalent to the emission limits while burning No. 2 distillate fuel oil. Hence, there will be no emission increases associated with this amendment. Performance testing will be required to verify this emission data assumption. This permit amendment (-005) would revise the Title I conditions limiting the types of fuel combusted in the boilers to include biodiesel and add biodiesel combustion performance testing requirements. There will be no change to the BACT emission and usage limits.

2. Pre-authorize the limited combustion and performance testing of additional alternative fuels. The alternative fuels include byproducts or waste from the vegetable oil manufacturing process as well as off-spec biodiesel and biodiesel manufacturing byproducts.

3. Revise the restriction on rain caps on stacks at the facility.

   With the issuance of permit action -003, for the biodiesel plant, a pressure relief valve stack was required. Under the original permit language, such a pressure relief valve would have been prohibited from having a rain cap. The pressure relief valve would vent volatile organic compound emissions, if an over-pressure were to occur. Because the pressure relief stack will not routinely have an exhaust flow, it is necessary, for the stack, to have a rain cap in order to prevent water accumulation in the vent line. In the event of a pressure relief event, only Volatile Organic Compounds (VOC) would be emitted from the stack. There is no ambient air quality standard or Prevention of Significant Deterioration (PSD) increment standard for VOC emissions, so the basis for the "no rain cap" condition does not apply to the emissions from the pressure relief stack. Accordingly, this permit term is to clarify the condition of prohibiting rain caps on stacks, such that the condition applies only to those stacks that were included in an ambient air quality or increment standard analysis for the facility.

4. Correct the initially proposed DT/DC system and the "as built" DT/DC 4.

   The as built DT/DC system consists of one stack instead of four. It consists of three dryer decks instead of the two initially proposed. It also consists of one cooler deck instead of two initially proposed.

1.4. Facility Emissions:

The Permittee is proposing to accept all of the emission limits for the biodiesel that are currently in place for the #2 fuel oil. Accordingly, there will be no PTE or limited PTE emission increases.

Table 2. Total Facility Potential to Emit Summary:

	PM tpy	PM_{10} tpy	SO_2 tpy	NO_x Tpy	CO tpy	VOC tpy	All HAPs tpy
Total Facility Limited Potential Emissions	245.5	136.7	25.0	76.2	69.9	631.3	549.8

Table 3. Facility Classification

Classification	Major/Affected Source	Synthetic Minor	Minor
PSD	PM, PM_{10}, NO_x, VOC		CO, SO_2, Pb
Part 70 Permit Program	PM, PM_{10}, VOC, n-Hexane, total HAP	SO_2, NO_x	CO, Pb

2. Regulatory and/or Statutory Basis for the Permit Action (-005)

New Source Review

The facility is an existing major source under PSD regulations. There are no increases in the PTE or limited PTE emission. Accordingly, there is no projected actual emissions increase due to the changes authorized by this permit. Hence, this proposed change is below the thresholds for a PSD major modification. U.S. Environmental Protection Agency (EPA) Region 5 has, however, advised that a PSD review is required for this permit action (-005).

Part 70 Permit Program

The facility is an existing major source under the Part 70 permit program.

New Source Performance Standards (NSPS)

The existing boilers remain subject to Standards of Performance for Small and Industrial Commercial and Institutional Steam Generating Units (40 CFR § 60 Subp. Dc). The changes authorized by this permit do not change the applicability of these NSPS requirements to any emission units.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

The modification does not trigger any additional NESHAPs under 40 CFR § 63.

Minnesota State Rules

This modification is not subject to any Minnesota Standards of Performance.

The performance testing will be subject to Minn. R. 7017.

Table 4. Regulatory Overview of Units Affected by the Modification

EU, GP, or SV	Applicable Regulations	Comments:
GP 007 (EU026, 027)	40 CFR § 60, Subp. Dc	Standards of Performance for Small and Industrial Commercial and Institutional Steam Generating Units are applicable to nat. gas and distillate oil, but not to biodiesel.
	40 CFR § 52.21(j)	Prevention of Significant Deterioration. BACT limits for use of biodiesel and biodiesel PM, PM_{10}, NO_x, and VOC emission limits.

3. Technical Information

3.1 Type of Permit Action/PSD Analysis?

This section consists of the following two issues. These issues are: 1) What type of permit action is required by this permit amendment?; and 2) What type of PSD analysis is required? The following Background section is common to both issues.

Background

MnSP is a vegetable oil refinery (soybeans). MnSP is a PSD major facility for NO_x, VOC, PM and PM_{10}. On Dec. 2002, the PSD permit was issued. The facility has two 90 MMBtu/hr boilers. NO_x is limited due to usage restrictions of the #2 distillate fuel oil of 6,080,000 gallons/year. The limited PTE for the boilers follows.

Emission Unit Description	EU #	SV #	PM (tpy)	PM_{10} (tpy)	SO_2 (tpy)	NO_X (tpy)	VOC (tpy)	CO (tpy)	Pb (tpy)	Single HAP (tpy)	All HAPs (tpy)
First Boiler	026		6.37	6.37	11.05	32.22	2.13	32.46	1.99E-03		1.41E-01
Second Boiler	027		6.37	6.37	11.05	32.22	2.13	32.46	1.99E-03		1.41E-01

Each boiler has a limited NO_x emission of 32.22 tpy. The total facility NO_x emissions are 69.1 tpy. The existing permit restricts the boilers to combust, only, natural gas or distillate fuel oil. As a new fuel type, MnSP wants the authorization to also combust biodiesel oil, produced at its facility, in its boilers.

The boilers, at issue, both were subject to the initial -001 PSD analysis. Highlights taken from the -001 PSD analysis follow:

Combustion Sources BACT Determination

Boilers 2 – 90 MMBtu/hr
NOx BACT = Flue gas recirculation with low NO_X burners
PM/PM_{10} BACT = Good combustion control
VOC BACT = Fuel usage limited to natural gas with No. 2 fuel oil as backup

External Combustion Sources BACT Emission Limits

Boiler Nos. 1 and 2 – 90 MMBtu/hr

	Natural Gas Factor (lb/MMBtu)	No. 2 Oil Factor (lb/MMBtu)
NOx	0.05	0.125
VOC	0.00524	0.00143
PM_{10}	0.00745	0.0236
PM	0.00745	0.0236

COMBUSTION SOURCE CONTROL TECHNOLOGY COST EVALUATION SUMMARY
(Boilers No. 1 and No. 2 – 90 MMBtu/hr each)

NOx

Control Technology	Cost Effectiveness ($/ton removed)	Status
LTO	8,009	
SCR	13,452	Rejected
Selective SNCR	-	Technically infeasible
Flue Gas Recirculation	278	Accepted

PM/PM_{10}

Control Technology	Cost Effectiveness ($/ton removed)	Status
ESP	60,024	Rejected
Fabric Filter	24,923	Rejected
Wet Scrubber	43,404	Rejected
Cyclone	15,205	Rejected
Good Combustion Practice	-	Accepted

As a result of the -001 PSD review, the boilers received BACT case-by-case emission limits (in lb/MMBtu) for NO_x, VOC, PM, and PM_{10} when combusting both natural gas and distillate fuel oil. A Title I condition was created for fuel usage of natural gas and distillate oil with a 0.05 percent sulfur content by weight maximum. This resulted in SO_2 emissions being less than the significance levels for a major modification. In order to keep the cost per ton of NO_x lower for the NO_x BACT top-down analysis, a fuel usage limit (6,080,000 gallons/year) on distillate fuel oil usage was taken. Again, the fuel usage limit is a BACT case-by-case limit.

MnSP proposes adding biodiesel oil, as a new fuel type. The proposal would authorize the boilers to combust 100 percent biodiesel or a mixture of biodiesel/distillate oil within the existing usage limits and meeting the existing #2 fuel oil emission limits. MnSP has provided that there will be no physical modifications made for the boilers to accommodate biodiesel fuel. MnSP has noted, however, it would take about two weeks to adjust the boiler settings to be able to accommodate the biodiesel.

At this time, a 2 percent blend of biodiesel fuel is included in Minnesota diesel fuel. There are reports of biodiesel running at higher blends (up to 20 percent) in various engines. Based on the limited data available, it appears that biodiesel combustion in internal combustion engines produces slightly lower to equivalent emissions in comparison to diesel for pollutants other than NO_x. For NO_x, it appears that the emissions increase by 10 percent. The only emission data that is available for boilers is on a small boiler and a residential boiler. For the small boiler, all emissions, including NO_x, are slightly lower or equivalent in comparison to distillate fuel oil emissions. The boiler emission data, submitted by MnSP, is found in Attachment #3. In addition, MnSP will be submitting performance test results of a biodiesel burn, from a South Dakota 70 MMBtu/hr boiler. The NO_X, CO, and PM performance tests scheduled, on this South Dakota unit, took place the week of Nov. 21, 2005.

Issue #1
What type of permitting amendment requirements are needed to authorize MnSP to add biodiesel oil as a third boiler fuel type?

Discussion #1

To frame the issue #1 discussion, the following four considerations will be reviewed:

i) Does the MPCA have emission factors for every operating scenario?

ii) What physical changes must be done to accommodate the proposed fuel change?

iii) How does this change the overall regulatory status at the facility level?

iv) What are the permitting requirements to accommodate proposed fuel change?

i) Does the MPCA have emission factors for every operating scenario?

Based on what is known about biodiesel combustion in engines, the boiler emissions should be somewhat similar. This assumption is based on the limited testing conducted on smaller boiler units. Again, the results of these tests are found in Attachment 3. Hence, there is no better emission data information than assuming that biodiesel emissions will be equivalent to #2 fuel oil. By mid-November 2005, there will have been biodiesel stack testing for NO_x, PM and CO emissions from a 70 MMBtu/hr boiler in South Dakota. In addition, due to the uncertainties of this assumption, performance testing will be required of the MnSP boilers for NO_x, CO, PM_{10}, and VOC. MnSP believes that the biodiesel oil boiler emissions will be the less than or equivalent to the distillate oil emissions. MnSP has proposed that its biodiesel limits (emissions rates, fuel usage restriction) be the same as the permitted distillate fuel oil.

ii) What physical changes must be done to accommodate the proposed fuel change?

Based on what has been provided by MnSP, no physical changes need to be done to accommodate the proposed fuel change. MnSP has noted it would take about 2 weeks to adjust the boiler settings to be able to accommodate the biodiesel.

iii)How does this change the overall regulatory status at the facility level?

The MnSP proposal would not increase the emission level. Again, MnSP has proposed that its biodiesel limits (emissions rates, fuel usage restriction) be the same as the permitted distillate fuel oil. Accordingly, with a no emission increase, there would be no change in the regulatory status of the facility.

If there is any increase in emissions above what is proposed to be permitted, as based on the performance tests, this permit action (-005) is terminated. A new permit amendment will be required to address the increase in emissions. In preliminary discussion EPA Region 5, EPA has provided "this switch could possibly trigger PSD review. Since a fuel usage limit was created to decrease the cost per ton of NO_x in the BACT analysis, a change in this condition ultimately changes the original top-down BACT analysis. I think this would be required even if emissions would not trigger a significant net emissions increase. This modification also affects Title 1 conditions and as you know, changes in Title 1 conditions cannot simply be addressed with an administrative or minor amendment."

Based on what is currently known about biodiesel emissions, it is unlikely that NOx emissions would increase by 40 tpy to cross the PSD significant threshold for modifications. The overall limited PTE from the 2 boilers is currently 64.4 tpy. It would require a substantial increase to cross the 40 tpy. Moreover, based on an initial review of the Reasonable Available Control Technology (RACT)/BACT/Lowest Achievable Emissions Rate (LAER) Clearinghouse, it is does not appear that additional control measures would be required for distillate #2 oil. In addition, no entries were found in the RACT/BACT/LAER Clearinghouse for medium size boilers combusting biodiesel fuel.

In the event of an emission increase, MnSP will re-evaluate the original BACT determination to see if the previous BACT would change if this new fuel had been included in the analysis (i.e., the question isn't just whether or not they can *comply* with the BACT limits, but would the BACT determination *change* --would other controls have been required, etc.).

iv) What are the permitting requirements to accommodate proposed fuel change?

Minn. R. 7007.1500, subp. 1 provides, in part, that a major amendment is needed for "any amendment to establish or amend a permit condition that is required to be based on a case-by-case determination of an emission limit." What is being proposed is to amend Title I case-by-case conditions for the biodiesel oil addition. This triggers a Minnesota major amendment.

Conclusion #1

For this permit action, a Minnesota major amendment is triggered.

Issue #2

Is this proposed fuel change subject to NSR PSD review?

Discussion #2

The New Source Review (NSR) regulatory provisions require that a proposed "physical change in or change in method of operation of a major stationary source that would result in: a significant emissions increase of a regulated NSR pollutant; and a significant net emissions increase of that pollutant from the major stationary source emissions" is a New Source Review modification. 40 CFR § 52.21(2)(i).

Due to the use of the distillate #2 oil emission limits for the proposed biodiesel limits, there are no increases in the PTE or limited PTE. Accordingly, the proposed fuel change does not have emission increases that exceed the PSD significance thresholds for modifications. The MPCA's preliminary determination was that the proposed fuel switch is not considered a major modification under the Federal New Source Review Reform regulations. The MPCA preliminary determination was based on a 1993 Region V memo addressing a boiler fuel switch. This 1993 memo is found as Attachment 4. This position is also supported by a July 25, 2001 Region 4 memo pertaining to Mobile Energy Services.

Based on this determination, the MPCA responded, in part, to MnSP, in an October 24, 2005 letter. The October 24 letter is found as Attachment 2. In the October 24 letter, the MPCA provides that MnSP has two options for modifying the existing permit to combust biodiesel in the boilers. In this permit amendment application, MnSP has chosen Option 1 with the associated PSD risks.

Subsequent to the October 24 letter, EPA Region V advised, however, that they disagreed with the MPCA PSD determination. To support their position, EPA Region V referenced a Nov. 19, 1987 policy memo.

In consultation with the Permittee, the Permittee has agreed to follow the EPA Region V advice. The Permittee believes that the 1993 Region V memo should be followed. But in the interest of this permit action being issued, timely, the Permittee has agreed to follow EPA Region V advice. Accordingly, the following demonstration is made to show that the initial PSD analysis would not have been different had biodiesel fuel been initially included in the initial PSD analysis.

3.2 PSD Re-analysis

Emission Calculations

The initial emission calculations were performed in permit action -001. The emission factors were based on either AP-42 or the vendor. For this permit action (-005), the biodiesel emission factors are the same as what had been initially used in for the distillate oil emissions. Hence, there are no emissions increases due to this fuel switch.

BACT Determination

Based on a review of the RACT/BACT/LAER Clearinghouse for this permit action (-005), it is does not appear that additional control measures would be required for distillate #2 oil. In addition, no entries were found RACT/BACT/LAER Clearinghouse for medium size boilers combusting biodiesel fuel. Moreover, there are no increases in emissions associated with this permit action. Hence, the cost per ton does not change between this permit action and the initial PSD analysis. Accordingly, the initial BACT determination of dry low NO_x burners and flue gas recirculation remain valid for BACT.

Ambient and Increment Modeling Analysis

Because there are no increases in emissions associated with permit action -005, the above modeling results will not change.

Additional Impact Analysis

Because there are no increases in emissions associated with permit action -005, there are no changes in the initial Additional Impact Analysis.

Class I Areas Impact Analysis

Because there are no increases in emissions associated with permit action -005, there are no changes in the initial Class I Areas Impact Analysis.

It is noted that had biodiesel fuel been included in the initial PSD application, the results of the initial PSD analysis would not have changed. It is noted that whether the MPCA or EPA Region 5 approach is selected that the proposed permit requirements do not change. The key difference between the two approaches is that the basis of the biodiesel requirements would be BACT under the EPA Region 5 approach. In contrast, the basis for the requirements would be Title I Condition: to avoid major source modification under the MPCA approach. In addition, for future amendment actions, it will make a difference if a test result shows an increase or an alternative fuel test result takes a limit different than the #2 fuel oil.

3.3 Sulfur Content

As part of the performance testing, SO_2 is not being tested. The manufactured biodiesel must meet a specification. That spec limits the sulfur content to 500 ppm. The 500 ppm is equivalent to 0.05 percent, which is ultra low sulfur. To demonstrate compliance with this limit, quarterly sulfur fuel analyses will be conducted for each quarter the biodiesel is being combusted. It is assumed that biodiesel will have a very low sulfur content. If so, the fuel analysis test frequency will be reduced to yearly.

3.4 NSPS Dc

The NSPS Subpart Dc only applies to the combustion of oil. 40 CFR § 60.41c defines oil as being derived from crude oil or petroleum. Hence, the combustion of biodiesel does not trigger any additional Dc requirements.

3.5 NESHAP DDDDD

Biodiesel NESHAP DDDDD requirements were added to this permit action (-005).

3.6 Calculations of Potential to Emit

Due to the addition of biodiesel, there are no PTE or limited PTE emission increases.

3.7 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 those emission units for which the monitoring required by the applicable requirement is nonexistent or inadequate.

Table 5. Periodic Monitoring

Emission Unit or Group	**Requirement (basis)**	**Additional Monitoring**	**Discussion**
	Examples		
	a. Sulfur Content of Fuel: less than 0.05 % by weight b. Fuel Restriction: Distillate #2 oil and biodiesel	a. Fuel supply certification (#2 oil) and fuel analysis (biodiesel) b. Recordkeeping: Record and maintain records of the type of fuel combusted in the unit on a monthly basis.	

3.8 Comments Received

Public Notice Period: 3/31/06 – 5/1/06
EPA 45-day Review Period: 3/31/06 – 5/15/06

Comments were not received from the public during the public notice period.

Comments were not received from EPA during their review period.

One change was made to the permit during the public notice. The GP 007 performance testing for NOX, VOC, PM, etc. was to be within 180 days of permit issuance. The GP 011 NESHAP performance testing was to be within 180 days after initial startup of firing biodiesel. The GP 007 testing requirement date was changed to be consistent with the GP 011 requirements.

4. Conclusion

Based on the information provided by Minnesota Soybean Processors, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 10500053-005, and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team: Bruce Braaten (permit writer/engineer)
Sarah Kilgrif (enforcement)
Bonnie Nelson (peer reviewer)

Attachments:
1. Boiler Highlights from Permit Action 001 Technical Support Document
2. October 24, 2005 Letter to MnSP
3. MnSP Provided Biodiesel Emission Data
4. April 6, 1993 Region 5 Policy Memo

APPENDIX I: HIGHLIGHTS OF PERMIT ACTION -001 TECHNICAL SUPPORT DOCUMENT PERTAINING TO THE BOILERS

1. General Information

1.2. Description of the facility

This total facility operating permit authorizes Minnesota Soybean Processors (MnSP) to construct and operate a 3,000 ton per day soybean processing plant in the city of Brewster, Nobles County, Minnesota.

Besides receiving, preparation and extraction there will be a weigh station, offices and a lab, a steam generation plant, maintenance, and warehousing. The steam plant will fire, primarily, natural gas.

The following are groups of equipment that will emit regulated air pollutants:

Steam Plant
The boiler emits particulate, VOCs,
sulfur dioxide (SO_2), oxides of nitrogen (NOx) and carbon monoxide (CO).

This project was subject to Federal New Source Review (NSR). The NSR review resulted in the following air emission controls.

Boilers	Dry Low NOx combustors with flue gas recirculation

In addition, fuel oil burned in any of the combustion sources must contain less than 0.05% sulfur, by weight. Fuel oil is a backup fuel to natural gas. The facility can burn no more than 6,080,000 gallons of fuel oil in the boilers during any consecutive 12-month period.

1.3 Description of any changes allowed with this permit issuance

This permit allows construction and operation of the new source.

1.4. Facility Emissions:

Table 1. Total Facility Potential to Emit Summary:

Emission Unit Description	EU #	SV #	PM (tpy)	PM_{10} (tpy)	SO_2 (tpy)	NO_X (tpy)	VOC (tpy)	CO (tpy)	Pb (tpy)	Single HAP (tpy)	All HAPs (tpy)
Boilers		021									
First Boiler	026		6.37	6.37	11.05	32.22	2.13	32.46	1.99E-03		1.41E-01
Second Boiler	027		6.37	6.37	11.05	32.22	2.13	32.46	1.99E-03		1.41E-01
		Totals	**244.27**	**135.50**	**22.36**	**69.12**	**1085.25**	**65.76**	**3.98E-03**	**948.28**	**948.72**

	PM (tpy)	PM_{10} (tpy)	SO_2 (tpy)	NO_X (tpy)	VOC (tpy)	CO (tpy)	Pb (tpy)	Single HAP (tpy)	All HAPs (tpy)
Total Facility Limited Potential Emissions*	**244.27**	**135.50**	**22.36**	**69.12**	**1085.25**	**65.76**	**3.98E-03**	**948.28**	**948.72**

Table 2. Emissions Associated with the Construction

Pollutant	Limited Potential to Emit from the Construction (tpy)	NSR* and HAP Major Threshold Level (tpy)	NSR/ MACT Review Applicable (yes or no)
PM	244.3	250/25	Yes
PM_{10}	135.5	250/15	Yes
SO_2	22.4	250/40	No
NOx	69.1	250/40	Yes
VOC	1085.3	250/40	Yes
CO	65.8	250/100	No
Lead	3.98E-03	250/0.6	No
n-hexane	948.3	10	Yes
Total HAPs	947.7	25	Yes

* NSR: PSD major threshold = 250 tpy/PSD significant thresholds

Table 3. Total Facility and Permit Classification

Classification (put x in appropriate box)	Major/Affected Source	*Synthetic Minor	*Minor
PSD (list pollutant)	PM, PM_{10}, NO_x, VOC		CO, SO_2, Pb
NAAR (N/A)			
Part 70 Permit Program (list pollutant)	PM, PM_{10} VOC, n-hexane, Total HAP		NOx, SO_2, CO, Pb

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

2. Regulatory and/or Statutory Basis

Federal New Source Review: Since the potential emissions of, at least, one criteria pollutant is above 250 tons per year, the source is considered major under the applicable NSR regulation, Prevention of Significant Deterioration (PSD), 40 CFR § 52.21. Potential emissions of VOC are greater than the PSD major source threshold of 250 tpy. Because one of the criteria pollutants exceeded the major source threshold, PM, PM_{10} and NO_x also became subject to PSD. This is due to the potential emissions exceeding the PSD significant thresholds of 25 tpy, 15 tpy and 40 tpy, respectively. Hence, a PSD analysis was done for PM, PM_{10}, VOC and NO_x.

Federal New Source Performance Standards: The storage tank equipment is subject to 40 CFR pt. 60 Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels. The two 90 MMBtu/hr boilers are subject to 40 CFR pt. 60 Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units.

Federal National Emission Standard for Hazardous Air Pollutants: The solvent extraction process is subject to the requirement to apply Maximum Achievable Control Technology (MACT) in accordance with 40 CFR pt. 63, Subpart GGGG - Solvent Extraction for Vegetable Oil Production. Under Section 112, any new source with an individual (HAP) potential emission greater than 10 tpy is considered a major source. A major HAP source is required to meet the new source MACT established for that source category. There is a planned MACT standard for industrial boilers, but it has not yet been proposed. The boilers at the Brewster facility will be regulated as sources once the rule is proposed. Due to the recently built 8 million gallon storage tank, the building site is not currently considered a greenfield site.

Minnesota and National Ambient Air Quality Standards/Ambient Impacts: MnSP has performed dispersion modeling and determined that the predicted impacts of the plant's operation are below all ambient air quality standards, PSD increment levels, and Minnesota Health Risk Values.

Below is a summary table of the regulations used to derive the limits and conditions set in the permit:

Regulatory Overview of Facility

EU, GRP, or SV #	Applicable Regulations	Comments:
GP 006 (TK001-TK006)	40 CFR § 63 Subp. Kb	Standards of Performance for Volatile Organic Liquid Storage Vessels
GP 007 (EU026, 027)	40 CFR § 60, Subp. Dc	Standards of Performance for Small and Industrial Commercial and Institutional Steam Generating Units
	40 CFR § 52.21(j)	Prevention of Significant Deterioration. BACT limits for PM, PM_{10}, NOx, and VOC.

3. Technical Information

3.1 Best Available Control Technology (BACT) Analysis

The BACT summary analysis is attached. It contains the BACT control technology summary, BACT emission limits summary, and control technology cost evaluation summary.

3.2 Air Quality Analysis (Modeling Results)

Air dispersion modeling was performed by MnSP for the proposed facility. The modeling was conducted to demonstrate compliance with the National and Minnesota Ambient Air Quality Standards (NAAQS and MAAQS) and PSD increment standards. In addition, modeling was used to evaluate the impact of n-hexane emissions.

The Industrial Source Complex Plume Rise Model Enhancements (ISC-PRIME) model, version 99207 was used to estimate concentrations at and around the proposed Brewster facility. The Minnesota Pollution Control Agency (MPCA) and the U.S. Environmental Protection Agency (EPA) have granted approval to use the ISC-PRIME model for previous similar PSD air quality modeling demonstrations. Cenex Harvest States Cooperatives received approval from EPA to use the ISC-PRIME model for a similar soybean processing plant to be located in Fairmont,

Minnesota in the letter, dated August 23, 2000, from Bharat Mathur of EPA to Mike Sandusky of the MPCA. The ISC-PRIME model provides a more accurate characterization of the near-field dispersion of emissions by adding three building downwash parameters to the Industrial Source Complex Short Term 3 (ISCST3) base code. When compared to observational data, the ISC-PRIME model has been shown to perform as well as or better than ISCST3 for air dispersion modeling demonstrations with building downwash effects.

All major criteria pollutant background sources within 50 kilometers (km) of the plant that are major sources of criteria pollutants were included in the modeling to demonstrate compliance with the National and Minnesota Ambient Air Quality Standards. There are no major PM_{10} and NO_x background sources in Iowa within 50 km of the facility, as identified through correspondence with the Iowa Department of Natural Resources. The MPCA confirmed that no baseline date has been triggered in Nobles County. However, submission of the PSD application for Minnesota Soybean Processors' proposed Brewster facility triggers the minor and major source baseline dates for NO_x and PM_{10} in Nobles County. Therefore, no increment consumers in addition to the emission sources associated with the proposed facility were modeled.

The results of the air modeling for the ambient air impacts and ambient air quality standards are summarized in the table below. The air dispersion modeling results show that potential emissions do not cause or contribute to an exceedance of a NAAQS, MAAQS, or a PSD increment standard. In addition, the permit application air modeling materials (Section 6) are attached.

Ambient Air Impacts and Ambient Air Quality Standards Summary
(All values are in (ug/m^3)).

Impact	NO_x Annual Average g/m (^{3})[a]
Minnesota Soybean Processors (there are no other increment consuming sources)	8.4
Increment Standard	25
Minnesota Soybean Processors and Background Sources	8.9
Background Concentration	16.2
Minnesota Soybean Processors and Background Sources Maximum Ambient Impact	25.1
National Ambient Air Quality Standard	100
Minnesota Ambient Air Quality Standard or Health Risk Value	100

[a] Never to be exceeded

As can be seen from the previous table, all modeled impacts are less than the NAAQS and MAAQS ambient standards as well as the PSD increment standards.

3.3 Additional Impact Analysis

With no associated commercial or industrial growth projected, there are no expected growth-related air pollution impacts. Cultivated (farm) land is the most extensive land use in the area. Compliance with the secondary NAAQS will ensure that there are no expectations of adverse impacts to the types of soils and vegetation in the vicinity of the proposed plant. The Permittee prepared a visibility analysis, beginning with a screening procedure similar to that outlined in the EPA document Workbook for Estimating Visibility Impairment. Based on this analysis, there is no expected visibility impairment to occur within the source impact area and that the Level 2 and 3 analyses were unnecessary.

The analysis for growth, soils and vegetation, and visibility impairment are attached. Additional impacts are also described in more detail in the Environmental Assessment Worksheet materials.

3.4 Class I Area Impact Analysis

If a proposed source may affect a Class I area, Federal PSD regulations require notification of Federal land managers and inclusion of potential impacts on the area in the application. "May affect" is interpreted by EPA policy to include all major sources or major modifications which propose to locate within 100 km of a Class I area.

The Federal Class I areas closest to the proposed plant are the Boundary Waters Canoe Area Wilderness and Voyageurs National Park. Neither of these is within 100 km of the proposed source (62 miles). The closest, Boundary Waters, is approximately 470 km from Brewster, Minnesota.

Because of the great distance between the source and the PSD Class I areas of potential concern, no air emissions resulting from the operation of the proposed project are expected to impact those areas.

3.6 Technical Notes/Discussion

Combustion Emission Limits

PSD review was triggered for PM, PM_{10}, NO_x, and VOC. Therefore, each combustion emission unit needed a permit emission limit for each of the PSD pollutants subject to PSD review. The emission limits were established through a case-by-case determination of BACT. For situations where the "baseline" level of control represents BACT, the emission limits are based on AP-42 emission factors. "Baseline" control for NO_X is low NO_X burners.

NSPS subp. Kb

Other than that provided in the permit (i.e., maintain tank dimensions on-site), the storage tanks were sized below the remaining thresholds from any additional NSPS, Subp. Kb requirements. These tanks are to be underground.

3.7 Emission Calculations

The Permittee's application emission calculations are attached.

3.9 RACT/BACT/LAER Clearinghouse

The RACT/BACT/LAER Clearinghouse (RBLC) database was one of the information sources investigated in determining BACT. Because the most restrictive controls were selected for particulate generating equipment (fabric filters), the RBLC was not determinative for those sources. For the VOC BACT, n-hexane is the VOC of concern. The n-hexane emissions are subject to the National Emission Standard for Hazardous Air Pollutants for Vegetable Oil Extraction. The draft permit reflects these requirements. BACT determinations for the wet particulate generating sources, the combustion sources and the cooling tower were evaluated in the RBLC.

4. Conclusion

The permit application and modeling were reviewed by EarthTech, Inc.

Based on the information provided by Minnesota Soybean Processors and its consultants, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 10500053-001, and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

BACT Summary Analysis

BACT ANALYSIS SUMMARY

A. BACT CONTROL TECHNOLOGY SUMMARY

See the attached permit application for additional detail on the BACT control technology selection process.

III. Combustion Sources

A. Boilers 2 – 90 MMBtu/hr

NOx BACT = Flue gas recirculation with low NO_X burners
PM/PM_{10} BACT = Good combustion control
VOC BACT = Fuel usage limited to natural gas with No. 2 fuel oil as backup

B. BACT EMISSION LIMITS

See the attached permit application for additional detail on the BACT emission limits selection process.

III. External Combustion Sources

1. Boiler Nos. 1 and 2 – 90 MMBtu/hr

	Natural Gas Factor (lb/MMBtu)	No. 2 Oil Factor (lb/MMBtu)
NOx	0.05	0.125
VOC	0.00524	0.00143
PM_{10}	0.00745	0.0236
PM	0.00745	0.0236

C. CONTROL TECHNOLOGY COST EVALUATION SUMMARY

See the attached permit application for additional detail on the control technology cost evaluation selection process.

II. Combustion Sources

A. Boilers No. 1 and No. 2 – 90 MMBtu/hr each

NOx

Control Technology	Cost Effectiveness ($/ton removed)	Status
LTO	8,009	
SCR	13,452	Rejected
Selective SNCR	-	Technically infeasible
Flue Gas Recirculation	278	Accepted

PM/PM_{10}

Control Technology	Cost Effectiveness ($/ton removed)	Status
ESP	60,024	Rejected
Fabric Filter	24,923	Rejected
Wet Scrubber	43,404	Rejected
Cyclone	15,205	Rejected
Good Combustion Practice	-	Accepted

APPENDIX 2. OCTOBER 24, 2005 LETTER TO MnSP

- attached separately

APPENDIX 3. MnSP PROVIDED BIODIESEL EMISSION DATA

- - attached separately

APPENDIX 4. APRIL 3, 1993 REGION 5 POLICY MEMO

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5 AIR AND RADIATION DIVISION
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

April 6, 1993

REPLY TO THE ATTENTION OF:
(AT-18J)

Dennis Drake, Acting Chief
Air Quality Division
Michigan Department of Natural Resources
P.O. Box 30028
Lansing, Michigan 48909

Dear Mr. Drake:

This letter concerns a proposal by General Motors (GM) to burn natural gas in existing industrial boilers at an estimated 16 sites in the State of Michigan, and 12 other sites in Region 5. The units at issue currently burn coal or fuel oil. During a February 23, 1993, telephone conference between GM, the United States Environmental Protection Agency (USEPA), and the Michigan Department of Natural Resources to discuss these alternate fuel projects, GM was asked to provide a demonstration that a change in fuels would not affect future auto production rates at these facilities.

The data provided by GM in a March 9, 1993, letter indicate that the utilization rate of the boilers would not be influenced by a switch to this more economical fuel because (1) the total steam cost at a given plant is insignificant when compared to the total operating cost at that plant, and (2) the steam production is primarily determined by climate conditions, not auto production rates.

The New Source Review (NSR) regulatory provisions require that a proposed physical change result in an increase in actual emissions in order for the change to be considered a modification and therefore subject to NSR. See, e.g., 40 Code of Federal Regulations 52.21(2)(i). In this case, the proposed switch to natural gas at various GM facilities will result in substantial reductions in the emissions factors of particulate matter, sulfur dioxide, and, in most cases, oxides of nitrogen, as well as air toxics. The use of natural gas will also result in a substantial cost savings for the source. In general, where a source makes a change that reduces the costs of production, such changes usually affect the utilization of the facility. In this case, GM has clearly demonstrated that the utilization rate of the boilers will not be affected by the proposed fuel switch to natural gas. Consequently since the emissions factors for all relevant pollutants will decrease and neither the rate of production nor hours of operations of the facilities will increase as a result of the change, USEPA has determined that the proposed projects will not result in an increase in emissions. Therefore, based on the specific circumstances and data presented, it is USEPA's view that GM's proposed natural gas conversion projects should not be considered a major modification under the Federal New Source Review regulations.

If you have any questions with regard to this letter, please contact me.

Sincerely yours,

David Kee, Director
Air and Radiation Division