

AIR EMISSION PERMIT NO. 14500003-007
Major Amendment

IS ISSUED TO

Land O' Lakes Inc

MELROSE DAIRY PROTEINS LLC
1000 Kraft Drive East
Melrose, Stearns County, MN 56352

The emission units, control equipment and emission stacks at the stationary source authorized in this permit amendment are as described in the Permit Applications Table.

This permit amendment supersedes Air Emission Permit No. 14500003-006 and 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.

Unless otherwise indicated, all the Minnesota rules cited as the origin of the permit terms are incorporated into the State Implementation Plan under 40 CFR § 52.1220 and as such are enforceable by U.S. Environmental Protection Agency (EPA) Administrator or citizens under the Clean Air Act.

Permit Type: Federal; Pt 70/Limits to Avoid NSR

Operating Permit Issue Date: November 8, 2006

Major Amendment Issue Date: March 31, 2010

Expiration Date: November 8, 2011 – Title I Conditions do not expire.

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

for Paul Eger
Commissioner
Minnesota Pollution Control Agency

Permit Applications Table

Permit Type	Application Date	Permit Action
Total Facility Operating Permit Reissuance	1/29/03	005
Major Amendment	9/27/06	006
Major Amendment	6/10/09 supplemented 10/6/09	007

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NOTICE TO THE PERMITTEE:

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

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

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

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

PERMIT SHIELD:

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

FACILITY DESCRIPTION:

PERMIT ACTION 005 - REISSUANCE

Melrose Dairy Proteins LLC operates a cheese manufacturing plant and ethanol production facility in Melrose, Minnesota. The primary capability of the plant consists of the manufacture of natural cheeses, including parmesan, Romano, and cheddar. A portion of the by-products from the cheese-making process are fermented and distilled to produce denatured ethanol.

The facility as a whole (ethanol production plus cheese production) is subject to Prevention of Significant Deterioration Program (PSD) when potential emissions reach 250 tons per year of any criteria pollutant. The permit contains conditions such that potential emissions of all criteria pollutants are less than 250 tons per year. Since the potential emissions of the facility as a whole exceed 100 tons per year, the facility is subject to Part 70 permitting requirements. Also included in this permit action was a major amendment to adjust the volatile organic compounds limit to reflect changes in State testing requirements.

PERMIT ACTION 006 DESCRIPTION:

Melrose Dairy Proteins increased the facility's ethanol production capacity from 3.0 to 4.0 million gallons per year (MGY). This increased production was accomplished through process changes including altering operation of the evaporator and changing a beer well into a fermentation tank. The changes the company made have the effect of debottlenecking the ethanol production process but since the facility is an existing minor source that is staying minor, the debottlenecking is not an issue.

PERMIT ACTION 007 DESCRIPTION:

This major amendment will allow occasional use of a temporary natural gas-fired package boiler to be brought on site to maintain steam production during scheduled maintenance of the three existing permanent facility boilers. The current boilers have a combined heat input capacity of 239.7 mmBtu/hr. The size of the temporary boiler will vary and has a potential heat input capacity of up to 200 mmBtu/hr. Since this total heat input capacity would exceed 250 mmBtu/hr, the Permittee will accept a facility-wide boiler heat input limit of 240 mmBtu/hr on a 24-hour basis according to combined daily fuel meter readings for the four boilers. This limit will allow the facility to avoid becoming a major PSD source. The package boiler will be limited to 4380 hours of operation per year to avoid being a PSD modification in and of itself. This amendment will also include a reopening to set a limit of ≤ 408 gal/hr ethanol produced and a performance test frequency for the fermentation scrubber (CE002/SV004).

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

03/31/10

Facility Name: Melrose Dairy Proteins LLC

Permit Number: 14500003 - 007

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
SOURCE-SPECIFIC REQUIREMENTS	hdr
Permit Appendices: This permit contains 1 appendix as listed in the permit Table of Contents. The Permittee shall comply with all requirements contained in the appendix.	Minn. R. 7007.0800, subp. 2
Production: less than or equal to 4000000 gallons/year using 12-month Rolling Sum of ethanol (prior to addition of denaturant).	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000
Daily Recordkeeping: On each day of operation, the Permittee shall calculate, record and maintain the total quantity of ethanol produced (prior to addition of denaturant) at the facility.	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000
Recordkeeping: By the 15th day of every month, record the gallons of ethanol produced during the previous month, and the gallons of ethanol produced during the previous 12 months (12-month rolling sum).	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000
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, subps. 7A, 7L & 7M; Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0100-7009.0080.
Circumvention: Do not install or use a device or means that conceals or dilutes emissions, which would otherwise violate a federal or state air pollution control rule, without reducing the total amount of pollutant emitted.	Minn. R. 7011.0020
Air Pollution Control Equipment: Operate all pollution control equipment whenever the corresponding process equipment and emission units are operated, unless otherwise noted in Table A.	Minn. R. 7007.0800, subp. 2; Minn. R. 7007.0800, subp. 16(J)
Operation and Maintenance Plan: Retain at the stationary source an operation and maintenance plan for all air pollution control equipment. At a minimum, the O & M plan shall identify all air pollution control equipment and control practices and shall include a preventative maintenance program for the equipment and practices, a description of (the minimum but not necessarily the only) corrective actions to be taken to restore the equipment and practices to proper operation to meet applicable permit conditions, a description of the employee training program for proper operation and maintenance of the control equipment and practices, and the records kept to demonstrate plan implementation.	Minn. R. 7007.0800, subp. 14 and Minn. R. 7007.0800, subp. 16(J)
Operation Changes: In any shutdown, breakdown, or deviation the Permittee shall immediately take all practical steps to modify operations to reduce the emission of any regulated air pollutant. The Commissioner may require feasible and practical modifications in the operation to reduce emissions of air pollutants. No emissions units that have an unreasonable shutdown or breakdown frequency of process or control equipment shall be permitted to operate.	Minn. R. 7019.1000, subp. 4
Fugitive Emissions: Do not cause or permit the handling, use, transporting, or storage of any material in a manner which may allow avoidable amounts of particulate matter to become airborne. Comply with all other requirements listed in Minn. R. 7011.0150.	Minn. R. 7011.0150
Noise: The Permittee shall comply with the noise standards set forth in Minn. R. 7030.0010 to 7030.0080 at all times during the operation of any emission units. This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.	Minn. R. 7030.0010 - 7030.0080
Inspections: The Permittee shall comply with the inspection procedures and requirements as found in Minn. R. 7007.0800, subp. 9(A).	Minn. R. 7007.0800, subp. 9(A)
The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.	Minn. R. 7007.0800, subp. 16
Computer Dispersion Modeling Information: Melrose Dairy submitted modeling information on 1/23/03. Update the modeling data for any new or modified units within 180 days after Permit Issuance.	Minn. R. 7007.0800, subp. 2
PERFORMANCE TESTING	hdr

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

03/31/10

Facility Name: Melrose Dairy Proteins LLC

Permit Number: 14500003 - 007

Performance Testing: Conduct all performance tests in accordance with Minn. R. ch. 7017 unless otherwise noted in Tables A and/or B.	Minn. R. ch. 7017
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
MONITORING REQUIREMENTS	hdr
Monitoring Equipment Calibration: Annually calibrate all required monitoring equipment (any requirements applying to continuous emission monitors are listed separately in this permit).	Minn. R. 7007.0800, subp. 4(D)
Operation of Monitoring Equipment: Unless otherwise noted in Tables A and/or B, monitoring a process or control equipment connected to that process is not necessary during periods when the process is shutdown, or during checks of the monitoring systems, such as calibration checks and zero and span adjustments. If monitoring records are required, they should reflect any such periods of process shutdown or checks of the monitoring system.	Minn. R. 7007.0800, subp. 4(D)
RECORDKEEPING	hdr
Recordkeeping: Retain all records at the stationary source for a period of five (5) years from the date of monitoring, sample, measurement, or report. Records which must be retained at this location include all calibration and maintenance records, all original recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Records must conform to the requirements listed in Minn. R. 7007.0800, subp. 5(A).	Minn. R. 7007.0800, subp. 5(C)
Recordkeeping: Maintain records describing any insignificant modifications (as required by Minn. R. 7007.1250, subp. 3) or changes contravening permit terms (as required by Minn. R. 7007.1350 subp. 2), including records of the emissions resulting from those changes.	Minn. R. 7007.0800, subp. 5(B)
If the Permittee determines that no permit amendment or notification is required prior to making a change, the Permittee must retain records of all calculations required under Minn. R. 7007.1200. For expiring permits, these records shall be kept for a period of five years from the date the change was made or until permit reissuance, whichever is longer. The records shall be kept at the stationary source for the current calendar year of operation and may be kept at the stationary source or office of the stationary source for all other years. The records may be maintained in either electronic or paper format.	Minn. R. 7007.1200, subp. 4
REPORTING/SUBMITTALS	hdr
Shutdowns: Notify the Commissioner at least 24 hours in advance of a planned shutdown, or as soon as possible after an unplanned shutdown of any process or control equipment, if the shutdown would cause an increase in the emission of any regulated air pollutant. At the time of notification, notify the Commissioner of the cause of the shutdown and the estimated duration. Notify the Commissioner again when the shutdown is over.	Minn. R. 7019.1000, subp. 3
Breakdowns: Notify the Commissioner within 24 hours after a breakdown of more than one hour duration of any process or control equipment if the breakdown causes an increase in the emission of any regulated air pollutant. At the time of notification or as soon thereafter as possible, the permittee shall also notify the Commissioner of the cause of the breakdown and the estimated duration. Notify the Commissioner again when the breakdown is over.	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
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 - 7007.1500
Application for Permit Reissuance: due 180 days before expiration of existing permit.	Minn. R. 7007.0400, subp. 2

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

03/31/10

Facility Name: Melrose Dairy Proteins LLC

Permit Number: 14500003 - 007

Extension Requests: The Permittee may apply for an Administrative Amendment to extend a deadline in a permit by no more than 120 days, provided the proposed deadline extension meets the requirements of Minn. R. 7007.1400, subp. 1(H).	Minn. R. 7007.1400, subp. 1(H)
Emission Inventory Report: due on or before April 1 of each calendar year following permit issuance. To be submitted on a form approved by the Commissioner.	Minn. R. 7019.3000 - 7019.3100
Emission Fees: due 60 days after receipt of an MPCA bill.	Minn. R. 7002.0005 - 7002.0095

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

03/31/10

Facility Name: Melrose Dairy Proteins LLC

Permit Number: 14500003 - 007

Subject Item: GP 004 Residual Oil Usage**Associated Items:** EU 001 Boiler No. 1

EU 002 Boiler No. 2

EU 003 Boiler No. 3

What to do	Why to do it
A. OPERATING LIMITS	hdr
Fuel Usage: less than or equal to 1845000 gallons/year using 12-month Rolling Sum of residual fuel oil combusted by the boilers in GP 004.	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000
Sulfur Content of Fuel: less than or equal to 1.5 percent by weight	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000
B. RECORDKEEPING REQUIREMENTS	hdr
Daily Recordkeeping: On each day of operation, the Permittee shall calculate, record and maintain the total quantity of residual fuel oil combusted by boilers in GP004. Records shall be based on the actual amount of fuel combusted, as measured using an in-line flow meter.	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000
Recordkeeping: By the 15th day of each month, calculate and record the residual fuel oil use for the previous month and for the previous 12 months (12-month rolling sum). Records shall be based on the actual amount of fuel combusted, as measured using an in-line flow meter.	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000
Recordkeeping: Maintain residual oil vendor certifications of the sulfur content (percent by weight) for all residual fuel oil combusted by the boilers in GP 004.	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Melrose Dairy Proteins LLC
Permit Number: 14500003 - 007

- Subject Item:** GP 005 Other Fuel Usage
- Associated Items:** EU 025 Maintenance Office Heating Unit
EU 026 HTSH Control Room Space Heater
EU 027 Separator Room Heater
EU 028 Lab Heater
EU 029 Waste Treatment Heater
EU 030 Waste Treatment Heater
EU 031 Waste Treatment Furnace
EU 033 Emergency Generator

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

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-6**

03/31/10

Facility Name: Melrose Dairy Proteins LLC

Permit Number: 14500003 - 007

Subject Item: GP 007 Boilers**Associated Items:** EU 001 Boiler No. 1

EU 002 Boiler No. 2

EU 003 Boiler No. 3

EU 040 Package Boiler

What to do	Why to do it
Heat Input: less than or equal to 240 million Btu/hour with compliance to be determined on a 24-hour basis according to combined daily fuel meter readings for the four facility boilers (EU001, EU002, EU003, EU040).	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000
The Permittee shall monitor and record the combined fuel meter readings from each of the boilers (EU001, EU002, EU003, EU040) in operation on an hourly basis. By the 15th day of each month, calculate and record the hourly heat inputs, in mmBtu/hr, for the previous calendar month.	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 5

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-7**

03/31/10

Facility Name: Melrose Dairy Proteins LLC

Permit Number: 14500003 - 007

Subject Item: SV 003 Automatic cheese salter**Associated Items:** EU 004 Automatic Cheese Salter

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011. 0735. (PTE: 1.68 lbs/hour)	Minn. R. 7011.0715, subp. 1(A)
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0715, subp. 1(B)
Pressure Drop: greater than or equal to 1 inches of water column and less than or equal to 5 inches of water column , unless a new range is required to be set pursuant to Minn. R. 7017.2025, subp. 3. If a new range is required to be set, it will be based on the values recorded during the most recent MPCA approved performance test where compliance was demonstrated.	Title I Condition: Limit taken to avoid classification as a major source under 40 CFR Section 52.21;Minn. R. 7007.0800, subp. 2 and 14
Water flow rate: greater than or equal to 25 gallons/minute , unless a new limit is required to be set pursuant to Minn. R. 7017.2025, subp. 3. If a new limit is required to be set, it will be based on the values recorded during the most recent MPCA approved performance test where compliance was demonstrated.	Title I Condition: Limit taken to avoid classification as a major source under 40 CFR Section 52.21;Minn. R. 7007.0800, subp. 2 and 14
Each emission unit shall be controlled by the scrubber (CE 001) while in production operation ("on-line"). Equipment may only be "offline" while not in production operation.	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000

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

03/31/10

Facility Name: Melrose Dairy Proteins LLC

Permit Number: 14500003 - 007

Subject Item: SV 004 Fermentation scrubber**Associated Items:** EU 005 Fermentor No. 1

EU 006 Fermentor No. 2

EU 007 Fermentor No. 3

EU 008 Fermentor No. 4

EU 009 Fermentor No. 5

EU 010 Fermentor No. 6

EU 011 Pre-Fermentor

EU 012 Pre-Fermentor

EU 013 Yeast Tank

EU 014 Beer Still Vent

EU 015 Stripper Flux Vent

EU 016 Mol. Sieve Vacuum Receiver Vent

EU 017 Fermentor No. 7

EU 018 Fermentor No. 8

EU 019 Beer Well

EU 037 TK001 (Ethanol)

EU 038 TK002 (Ethanol)

EU 039 TK003 (Ethanol)

What to do	Why to do it
A. EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735	Minn. R. 7011.0715, subp. 1(A)
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0715, subp. 1(B)
Volatile Organic Compounds: less than or equal to 20.6 lbs/hour	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000
B. PRODUCTION LIMIT	hdr
Production: less than or equal to 408 gallons/hour using 8-hour Block Average of ethanol. Divide total gallons by total operating time in each eight hour block. Downtime of 15 or more minutes is not to be included as operating time.	Minn. R. 7017.2025, subp. 3
C. POLLUTION CONTROL REQUIREMENTS	hdr
Volatile Organic Compounds: greater than or equal to 50 percent collection efficiency	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000
Pressure Drop: greater than or equal to 7 inches of water column and less than or equal to 16 inches of water column , unless a new range is required to be set pursuant to Minn. R. 7017.2025, subp. 3. If a new range is required to be set, it will be based on the values recorded during the most recent MPCA approved performance test where compliance was demonstrated.	Title I Condition: Limit taken to avoid classification as a major source under 40 CFR Section 52.21;Minn. R. 7007.0800, subp. 2 and 14; also meets CAM requirements per 40 CFR Section 64.3
Water flow rate: greater than or equal to 9 gallons/minute , unless a new limit is required to be set pursuant to Minn. R. 7017.2025, subp. 3. If a new limit is required to be set, it will be based on the values recorded during the most recent MPCA approved performance test where compliance was demonstrated.	Title I Condition: Limit taken to avoid classification as a major source under 40 CFR Section 52.21;Minn. R. 7007.0800, subp. 2 and 14; also meets CAM requirements per 40 CFR Section 64.3
Each emission unit shall be controlled by the scrubber (CE 002) while in production operation ("on-line"). Equipment may only be "offline" while not in production operation.	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000; also meets CAM requirements per 40 CFR Section 64.3
D. TESTING REQUIREMENTS	hdr

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

03/31/10

Facility Name: Melrose Dairy Proteins LLC

Permit Number: 14500003 - 007

Performance Test: due before end of each 60 months starting 06/19/2007 to measure emissions of volatile organic compounds (results reported as total mass of VOC).	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7017.2020, subp. 1
Performance Test Notifications and Submittals: Performance Tests are due as outlined in Tables A and B of the permit. See Table B for additional testing requirements. Performance Test Notification (written): due 30 days before each Performance Test Performance Test Plan: due 30 days before each Performance Test Performance Test Pre-test Meeting: due 7 days before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy: due 105 days after each Performance Test	Minn. R. 7017.2030, subps. 1-4 and Minn. R. 7017.2035, subps. 1-2

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

03/31/10

Facility Name: Melrose Dairy Proteins LLC

Permit Number: 14500003 - 007

Subject Item: SV 006 Emergency generator**Associated Items:** EU 033 Emergency Generator

What to do	Why to do it
Opacity: less than or equal to 20 percent opacity once operating temperature has been attained.	Minn. R. 7011.2300, subp. 1
Sulfur Dioxide: less than or equal to 0.5 lbs/million Btu heat input (Compliance with this condition is demonstrated inherently, given potential emissions of 0.0006 lbs/million BTU heat input)	Minn. R. 7011.2300, subp. 2
Fuel type: Natural gas only	Minn. R. 7005.0100, subp. 35a

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

03/31/10

Facility Name: Melrose Dairy Proteins LLC

Permit Number: 14500003 - 007

Subject Item: EU 001 Boiler No. 1**Associated Items:** GP 004 Residual Oil Usage

GP 007 Boilers

SV 001 Boilers 1 and 2

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.6 lbs/million Btu heat input (Compliance with this condition is demonstrated inherently, given potential emissions of 0.019 lbs/million Btu heat input)	Minn. R. 7011.0510, subp. 1
Opacity: less than or equal to 20 percent opacity except as allowed in Minn. R. 7011.0510, subp. 2.	Minn. R. 7011.0510, subp. 2
Fuels Permitted: Natural gas or residual fuel oil only. (See GP 004 for additional limits on fuel oil usage.)	Minn. Stat. Section 116.07, subd. 4a; Minn. R. 7007.0800, subp. 2

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

03/31/10

Facility Name: Melrose Dairy Proteins LLC

Permit Number: 14500003 - 007

Subject Item: EU 002 Boiler No. 2**Associated Items:** GP 004 Residual Oil Usage

GP 007 Boilers

SV 001 Boilers 1 and 2

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.6 lbs/million Btu heat input (Compliance with this condition is demonstrated inherently, given potential emissions of 0.019 lbs/million Btu heat input)	Minn. R. 7011.0510, subp. 1
Opacity: less than or equal to 20 percent opacity except as allowed in Minn. R. 7011.0510, subp. 2.	Minn. R. 7011.0510, subp. 2
Fuels Permitted: Natural gas or residual fuel oil only. (See GP 004 for additional limits on fuel oil usage.)	Minn. Stat. Section 116.07, subd. 4a; Minn. R. 7007.0800, subp. 2

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

03/31/10

Facility Name: Melrose Dairy Proteins LLC

Permit Number: 14500003 - 007

Subject Item: EU 003 Boiler No. 3**Associated Items:** GP 004 Residual Oil Usage

GP 007 Boilers

SV 002 Boiler 3

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.4 lbs/million Btu heat input (Compliance with this condition is demonstrated inherently, given potential emissions of 0.023 lbs/million Btu heat input)	Minn. R. 7011.0515, subp. 1
Opacity: less than or equal to 20 percent opacity except as allowed by Minn. R. 7011.0515, subp. 2.	Minn. R. 7011.0515, subp. 2
Fuels Permitted: Natural gas or residual fuel oil only. (See GP 004 for additional limits on fuel oil usage.)	Minn. Stat. Section 116.07, subd. 4a; Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Melrose Dairy Proteins LLC
Permit Number: 14500003 - 007

Subject Item: **EU 033 Emergency Generator**

Associated Items: GP 005 Other Fuel Usage
 SV 006 Emergency generator

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

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

03/31/10

Facility Name: Melrose Dairy Proteins LLC

Permit Number: 14500003 - 007

Subject Item: EU 036 Syble Process Dust Collector**Associated Items:** CE 003 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

SV 008 Syble Process Dust Collector

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735. Because EU036 is controlled by control equipment which has a collection efficiency of 99.7% by weight, EU036 is considered to be in compliance with this requirement. (PTE: 0.63 lbs/hour)	Minn. R. 7011.0715, subp. 1(A)
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0715, subp. 1(B)
Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.	Minn. R. 7007.0800, subps. 4, 5 and 14
The Permittee shall operate and maintain the fabric filter in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.	Minn. R. 7007.0800, subp. 14

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

03/31/10

Facility Name: Melrose Dairy Proteins LLC

Permit Number: 14500003 - 007

Subject Item: EU 040 Package Boiler**Associated Items:** GP 007 Boilers

SV 009 Package Boiler

What to do	Why to do it
A. OPERATION & EMISSION LIMITS	hdr
Operating Hours: less than or equal to 4380 hours/year using 12-month Rolling Sum	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Recordkeeping: Each day, record the hours of operation for the previous day. By the 15th day of each month, calculate and record the total operating hours for the previous month and the previous 12 months (12-month rolling sum).	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 5
Fuel burned: Natural gas only.	Minn. Stat. Section 116.07, subd. 4a; Minn. R. 7007.0800, subp. 2
Nitrogen Oxides: less than or equal to 0.2 lbs/million Btu heat input using 30-day Rolling Average. This limit applies at all times of operation including periods of startup, shutdown or malfunction.	40 CFR Section 60.44b(h)(i)(l)(1); Minn. R. 7011.0565
To determine compliance with the emission limits for NOx required under 40 CFR Section 60.44b, the Permittee shall conduct the performance test as required under 40 CFR Section 60.8 using the continuous system for monitoring NOx under 40 CFR Section 60.48(b). For the initial compliance test, NOx from EU040 are monitored for 30 successive steam generating unit operating days and the 30-day average emission rate is used to determine compliance with the NOx emission standard under 40 CFR Section 60.44b. The 30-day average emission rate is calculated as the average of all hourly emissions data recorded by the monitoring system during the 30-day test period.	40 CFR Section 60.46b(e)(1); Minn. R. 7011.0565
Following the date on which the initial performance test is completed or required to be completed under 40 CFR Section 60.8, whichever date comes first, the Permittee shall upon request determine compliance with the NOx standards under 40 CFR Section 60.44b through the use of a 30-day performance test. During periods when performance tests are not requested, NOx emissions data collected pursuant to 40 CFR Sections 60.48b(g)(1) or 60.48b(g)(2) are used to calculate a 30-day rolling average emission rate on a daily basis and used to prepare excess emission reports, but will not be used to determine compliance with the NOx emission standards. A new 30-day rolling average emission rate is calculated each operating day as the average of all the hourly NOx emission data for the preceding 30 operating days.	40 CFR Section 60.46b(e)(4); Minn. R. 7011.0565
The Permittee shall monitor steam generating unit operating conditions and predict NOx emission rates as specified in a plan submitted pursuant to 40 CFR Section 60.49b(c).	40 CFR Section 60.48b(g)(2); Minn. R. 7011.0565
B. REPORTING AND RECORDKEEPING	hdr
The Permittee shall submit notification of the date of initial startup, as provided by 40 CFR Section 60.7. This notification shall include: 1. The design heat capacity of the affected facility and identification of the fuels to be combusted in the affected facility; 2. The annual capacity factor at which the Permittee anticipates operating the facility based on all fuels fired and based on each individual fuel burned.	40 CFR Section 60.49b(a)(1)(3); Minn. R. 7011.0565
The Permittee shall submit for approval a plan that identifies the operating conditions to be monitored under 40 CFR Section 60.48b(g)(2) and the records to be maintained under 40 CFR Section 60.49b(j). This plan shall be submitted for approval within 360 days of initial startup of the package boiler. If the plan is approved, the Permittee shall maintain records of predicted NOx emission rates and the monitored operating conditions, including steam generating unit load, identified in the plan. The plan shall: 1. Identify the specific operating conditions to be monitored and the relationship between these operating conditions and NOx emission rates (lb/mmBtu heat input). Steam generating unit operating conditions include, but are not limited to, the degree of staged combustion and the level of excess air; 2. Include the data and information used to identify the relationship between NOx emission rates and these operating conditions; and	40 CFR Section 60.49b(c); Minn. R. 7011.0565

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

03/31/10

Facility Name: Melrose Dairy Proteins LLC

Permit Number: 14500003 - 007

3. Identify how these operating conditions, including steam generating unit load, will be monitored under 40 CFR Section 60.48b(g) on an hourly basis by the Permittee during the period of operation of the affected facility; the quality assurance procedures or practices that will be employed to ensure that the data generated by monitoring these operating conditions will be representative and accurate; and the type and format of the records of these operating conditions, including steam generating unit load, that will be maintained by the Permittee under 40 CFR Section 60.49b(j).	40 CFR Section 60.49b(c); Minn. R. 7011.0565 (continued)
The Permittee shall record and maintain records of the amounts of each fuel combusted during each day and calculate the annual capacity factor individually for natural gas for the reporting period. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month.	40 CFR Section 60.49b(d); Minn. R. 7011.0565
Except as provided under paragraph (p) of this section, the Permittee shall maintain records of the following information for each steam generating unit operating day: 1. Calendar date; 2. Average hourly NOx emission rates (lb/mmBtu heat input) measured or predicted 3. The 30-day average NOx emission rates (lb/mmBtu heat input) calculated at the end of each steam generating unit operating day from the measured or predicted hourly NOx emission rates for the preceding 30 steam generating unit operating days; 4. Identification of the steam generating unit operating days when the calculated 30-day average NOx emission rates are in excess of the NOx emission standards under 40 CFR Section 60.44b, with reasons for such excess emissions as well as a description of corrective actions taken;	40 CFR Section 60.49b(g); Minn. R. 7011.0565
5. Identification of the steam generating unit operating days for which pollutant data have not been obtained, including reasons for not obtaining sufficient data and a description of corrective actions taken; 6. Identification of the times when emission data have been excluded from the calculation of average emission rates and the reasons for excluding data; 7. Identification of "F" factor used for calculations, method of determination, and type of fuel combusted.	40 CFR Section 60.49b(g); Minn. R. 7011.0565 (continued)
All records required under this section shall be maintained by the Permittee for a period of 2 years following the date of such record.	40 CFR Section 60.49b(o); Minn. R. 7011.0565
The Permittee shall develop and submit a site-specific fuel analysis plan for review and approval no later than 60 days before the date intended to demonstrate compliance. Each fuel analysis plan shall include a minimum initial requirement of weekly testing and each analysis report shall contain, at a minimum, the following information: 1. The potential sulfur emissions rate of the representative fuel mixture in ng/J heat input; 2. The method used to determine the potential sulfur emissions rate of each constituent of the mixture. For distillate oil and natural gas a fuel receipt or tariff sheet is acceptable; 3. The ratio of different fuels in the mixture; and 4. The Permittee can petition to approve monthly or quarterly sampling in place of weekly sampling.	40 CFR Section 60.49b(r)(2)(i-iv); Minn. R. 7011.0565
The Permittee may submit electronic quarterly reports for SO2 and/or NOx and/or opacity in lieu of submitting the written reports required under paragraphs (h), (i), (j), (k) or (l) of this section. The format of each quarterly electronic report shall be coordinated with the MPCA. The electronic report(s) shall be submitted no later than 30 days after the end of the calendar quarter and shall be accompanied by a certification statement from the Permittee, indicating whether compliance with the applicable emission standards and minimum data requirements of this subpart was achieved during the reporting period. Before submitting reports in the electronic format, the Permittee shall coordinate with the MPCA to obtain their agreement to submit reports in this alternative format.	40 CFR Section 60.49b(v); Minn. R. 7011.0565
The reporting period for the reports required under this subpart is each 6 month period. All reports shall be submitted and shall be postmarked by the 30th day following the end of the reporting period.	40 CFR Section 60.49b(w); Minn. R. 7011.0565
C. TESTING REQUIREMENTS	hdr
Performance Test: due 180 days after Initial Startup of EU040 to measure NOx emissions.	Minn. R. 7017.2020, subp. 1

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

03/31/10

Facility Name: Melrose Dairy Proteins LLC

Permit Number: 14500003 - 007

<p>Performance Test Notifications and Submittals:</p> <p>Performance Tests are due as outlined in Tables A and B of the permit. See Table B for additional testing requirements.</p> <p>Performance Test Notification (written): due 30 days before each Performance Test</p> <p>Performance Test Plan: due 30 days before each Performance Test</p> <p>Performance Test Pre-test Meeting: due 7 days before each Performance Test</p> <p>Performance Test Report: due 45 days after each Performance Test</p> <p>Performance Test Report - Microfiche Copy: due 105 days after each Performance Test</p>	<p>Minn. R. 7017.2030, subps. 1-4 and Minn. R. 7017.2035, subps. 1-2</p>
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TABLE A: LIMITS AND OTHER REQUIREMENTS**A-19**

03/31/10

Facility Name: Melrose Dairy Proteins LLC

Permit Number: 14500003 - 007

Subject Item: CE 001 Gas Scrubber (General, Not Classified)**Associated Items:** EU 004 Automatic Cheese Salter

What to do	Why to do it
Record the pressure drop and water flow rate of each scrubber once each day of operation.	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000
Corrective Action: if the pressure drop and/or water flow rate are not equal or greater than the minimum values specified in the Operation and Maintenance Plan, the Permittee shall take corrective action as soon as possible to achieve the required operating values. The Permittee shall keep a record of the type and date of all corrective actions taken.	Minn. R. 7007.0800, subps. 4, 5, and 14
Inspect quarterly, or as required by manufacturing specifications, all components that are not subject to wear or plugging, including structural components, housing, ducts, and hoods. Maintain a written record of the inspection and any action resulting from the inspection.	Minn. R. 7007.0800, subp. 2 and subp. 14
Inspect monthly, or as required by manufacturing specifications, all components that are subject to wear or plugging. Maintain a written record of the inspection and any action resulting from the inspection.	Minn. R. 7007.0800, subp. 2 and subp. 14
Calibrate the gauges annually, or as often as required by manufacturing specifications and maintain a written record of the calibration and any action resulting from the calibration.	Minn. R. 7007.0800, subp. 2 and subp. 14
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)

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-20**

03/31/10

Facility Name: Melrose Dairy Proteins LLC

Permit Number: 14500003 - 007

Subject Item: CE 002 Packed-Gas Adsorption Column**Associated Items:** EU 005 Fermentor No. 1

EU 006 Fermentor No. 2

EU 007 Fermentor No. 3

EU 008 Fermentor No. 4

EU 009 Fermentor No. 5

EU 010 Fermentor No. 6

EU 011 Pre-Fermentor

EU 012 Pre-Fermentor

EU 013 Yeast Tank

EU 014 Beer Still Vent

EU 015 Stripper Flux Vent

EU 016 Mol. Sieve Vacuum Receiver Vent

EU 017 Fermentor No. 7

EU 018 Fermentor No. 8

EU 037 TK001 (Ethanol)

EU 038 TK002 (Ethanol)

EU 039 TK003 (Ethanol)

TK 001 Ethanol (SV004)

TK 002 Ethanol (SV004)

TK 003 Ethanol (SV004)

What to do	Why to do it
Record the pressure drop and water flow rate of each scrubber once each day of operation.	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000; also meets CAM requirements per 40 CFR Section 64.3
Corrective Action: if the pressure drop and/or water flow rate are not equal or greater than the minimum values specified in the Operation and Maintenance Plan, the Permittee shall take corrective action as soon as possible to achieve the required operating values. The Permittee shall keep a record of the type and date of all corrective actions taken.	Minn. R. 7007.0800, subps. 4, 5, and 14; also meets CAM requirements per 40 CFR Section 64.3
Inspect quarterly, or as required by manufacturing specifications, all components that are not subject to wear or plugging, including structural components, housing, ducts, and hoods. Maintain a written record of the inspection and any action resulting from the inspection.	Minn. R. 7007.0800, subp. 2 and subp. 14
Inspect monthly, or as required by manufacturing specifications, all components that are subject to wear or plugging. Maintain a written record of the inspection and any action resulting from the inspection.	Minn. R. 7007.0800, subp. 2 and subp. 14
Calibrate the gauges annually, or as often as required by manufacturing specifications and maintain a written record of the calibration and any action resulting from the calibration.	Minn. R. 7007.0800, subp. 2 and subp. 14
Operation and Maintenance: The Permittee shall operate and maintain CE001 according to the control equipment manufacturers specifications and the facility operation and maintenance plan.	Minn. R. 7007.0800, subp. 2; also meets CAM requirements per 40 CFR Section 64.3

TABLE B: SUBMITTALS

B-1 03/31/10

Facility Name: Melrose Dairy Proteins LLC
Permit Number: 14500003 - 007

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

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

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

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.

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

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

Send any application for a permit or permit amendment to:

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

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

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS**B-2** 03/31/10

Facility Name: Melrose Dairy Proteins LLC

Permit Number: 14500003 - 007

What to send	When to send	Portion of Facility Affected
Notification of the Actual Date of Initial Startup	due 15 days after Initial Startup of the Package Boiler (EU040).	EU040
Notification of the Date Construction Began	due 30 days after Start Of Construction of the Package Boiler (EU040).	EU040
Testing Frequency Plan	due 60 days after Initial Performance Test for NOx emissions. The plan shall specify a testing frequency based on the test data and MPCA guidance. Future performance tests based on one-year (12 month), 36 month, and 60 month intervals, or as applicable, shall be required upon written approval of the MPCA.	EU040
Testing Frequency Plan	due 60 days after Initial Performance Test for volatile organic compounds. The plan shall specify a testing frequency based on the test data and MPCA guidance. Future performance tests based on one-year (12 month), 36 month, and 60 month intervals, or as applicable, shall be required upon written approval of the MPCA.	SV004

TABLE B: RECURRENT SUBMITTALS**B-3** 03/31/10

Facility Name: Melrose Dairy Proteins LLC

Permit Number: 14500003 - 007

What to send	When to send	Portion of Facility Affected
Excess Emissions/Downtime Reports (EER's)	due 30 days after end of each calendar quarter following Initial Startup. Cover letter, certification, and summary of exceedances shall be submitted in hardcopy format; all other information may be submitted electronically. Shall be certified per Minn. R. 7007.0500, subp. 3.	EU040
Semiannual Deviations Report	due 30 days after end of each calendar half-year starting 07/28/1998 . The first semiannual report submitted by the Permittee shall cover the calendar half-year in which the permit is issued. The first report of each calendar year covers January 1 - June 30. The second report of each calendar year covers July 1 - December 31. If no deviations have occurred, a report shall be submitted stating no deviations.	Total Facility
Compliance Certification	due 30 days after end of each calendar year starting 07/28/1998 (for the previous calendar year). To 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.	Total Facility

APPENDIX MATERIAL

Facility Name: Melrose Dairy Proteins LLC

Permit Number: 14500003-007

APPENDIX B: INSIGNIFICANT ACTIVITIES

Facility Name: Melrose Dairy Proteins LLC

Permit Number: 14500003-005

Fermentation Room Seed Tank (EU023)

Fermentation Room Pump Seals (EU024)

Maintenance Office Heating Unit (EU025)

Fuel Type: Natural Gas

Fuel Input: 135,000 btu/hr

HTST Control Room Space Heater (EU026)

Fuel Type: Natural Gas

Fuel Input: 100,000 btu/hr

Separator Room Heater (EU027)

Fuel Type: Natural Gas

Fuel Input: 175,000 btu/hr

Lab Heater (EU028)

Fuel Type: Natural Gas

Fuel Input: 231,000 btu/hr

Waste Treatment Heater (EU029)

Fuel Type: Natural Gas

Fuel Input: 75,000 btu/hr

Waste Treatment Heater (EU030)

Fuel Type: Natural Gas

Fuel Input: 350,000 btu/hr

Waste Treatment Furnace (EU031)

Fuel Type: Natural Gas

Fuel Input: 75,000 btu/hr

Emergency Generator (EU033)

Fuel Input: 1.1 MMbtu/hr

No. 5 Fuel Oil Tank (TK006)

No. 5 Fuel Oil Tank (TK007)

TECHNICAL SUPPORT DOCUMENT
For
AIR EMISSION PERMIT NO. 14500003-007

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

1. General Information

1.1 Applicant and Stationary Source Location:

Table 1. Applicant and Source Address

Applicant/Address	Stationary Source/Address (SIC Code: 2022, 2869)
Land O' Lakes Inc. 4001 Lexington Avenue North Arden Hills, MN 55126	Melrose Dairy Proteins, LLC 1000 Kraft Drive East Melrose, Stearns County, MN 56352
Contact: Eric Tiegen Phone: 651-481-2164	Contact: Henry Braegelmann Phone: 320-256-1933

1.2 Facility Description

Melrose Dairy Proteins LLC (MDP) operates a cheese manufacturing plant and ethanol production facility in Melrose, Minnesota. The primary capability of the plant consists of the manufacture of natural cheeses. A portion of the by-products from the cheese-making process are fermented and distilled to produce denatured ethanol. The facility operates 24 hours per day, 365 days per year.

The facility as a whole (ethanol production plus cheese production) is subject to PSD when potential emissions reach 250 tons per year of any criteria pollutant. The permit contains conditions such that potential emissions of all criteria pollutants are less than 250 tons per year. Since the potential emissions of the facility as a whole exceed 100 tons per year, the facility is subject to Part 70 permitting requirements.

1.3 Description of the Activities Allowed by this Permit Action

This major amendment will allow occasional use of a temporary natural gas-fired package boiler to be brought on site to maintain steam production during scheduled maintenance of the three existing permanent facility boilers. The current boilers have a combined heat input capacity of 239.7 mmBtu/hr. The size of the temporary boiler will vary and has a potential heat input capacity of up to 200 mmBtu/hr. Since this total heat input capacity would exceed 250 mmBtu/hr, the Permittee will accept a facility-wide boiler heat input limit of 240 mmBtu/hr on a 24-hour basis according to combined daily fuel meter readings for the four boilers. This limit will allow the facility to avoid becoming a major PSD source. The package boiler will be limited

to 4380 hours of operation per year so as to avoid being a PSD modification in and of itself. The Permittee shall submit updated modeling data for the package boiler within 180 days after permit issuance. This amendment will also include a reopening to set a performance test frequency for the fermentation scrubber (CE002/SV004) and a limit of less than or equal to 408 gal/hr of ethanol produced. The new recordkeeping and permit appendices requirements were added to the total facility portion of the permit and some citations were updated to meet current MPCA practice.

1.4. Facility Emissions:

Table 2. Title I Emissions Increase Summary

Pollutant	Emissions Increase from the Modification (tpy)	Limited Emissions Increase from the Modification (tpy)	Net Emissions Increase (tpy)	NSR/ 112(g) Review Required? (Yes/No)
PM	6.53	3.26	3.26	No
PM ₁₀	6.53	3.26	3.26	No
PM _{2.5}	6.53	3.26	3.26	No
NO _x	163.18	81.59	81.59	No*
SO ₂	0.52	0.26	0.26	No
CO	72.14	36.07	36.07	No
Ozone (VOC)	4.72	2.36	2.36	No
Lead	4.29E-4	2.15E-4	2.15E-4	No
Individual HAPs (hexane)	1.55	0.77	0.77	No
Total HAPs	1.62	0.81	0.81	No

* Facility is synthetic minor for NSR/PSD and the increases in Table 2 keep the total limited PTE below major PSD status (< 250 tpy). (See Table 3 below.) The NO_x increase of 37.3 lb/hr qualifies as a major amendment.

Table 3. Limited Potential to Emit for Entire Facility

Pollutant	PM	PM ₁₀	PM _{2.5}	SO ₂	NO _x	VOCs	CO	Lead	Combined HAP
Total Facility Limited Potential Emissions	39.03	34.27	3.26*	218.1	234.4	92.19	140.2	0.002	6.19
Actual Emissions '08	35.03	22.59	NA	14.94	54.55	31.72	21.87	0.0	NA

* Only includes PM_{2.5} increase from package boiler modification.

Table 4. Facility Classification

Classification	Major/Affected Source	Synthetic Minor	Minor
PSD		NO _x , SO ₂ , VOC	PM, PM ₁₀ , CO, Pb
Part 70 Permit Program	CO, NO _x , SO ₂	PM, PM ₁₀ , VOC	Pb
Part 63 NESHAP		X	

2. Regulatory and/or Statutory Basis

New Source Review

The facility is not an existing major source under New Source Review. Melrose Dairy Products, LLC is accepting a facility-wide limit on total heat input for all boilers below the PSD major source threshold of 250 mmBtu/hr.

Part 70 Permit Program

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

New Source Performance Standards (NSPS)

40 CFR pt. 60, subp. Db Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units

National Emission Standards for Hazardous Air Pollutants (NESHAP)

No major source NESHAPs apply since the total individual HAP is below 10 tpy and the total HAP is below 25 tpy. In addition, no area source NESHAPs apply to the facility.

Compliance Assurance Monitoring (CAM)

CAM does not apply to the modification allowed in this permit amendment, since the emission unit added is uncontrolled and took hours of operation limits to reduce its potential emissions below the CAM applicable threshold.

Environmental Review & AERA

The unlimited increase in emissions for the package boiler are such that it is not subject to environmental review, i.e. an Environmental Assessment Worksheet (EAW), and is not required to perform an Air Emissions Risk Analysis (AERA).

Minnesota State Rules

The package boiler is subject to the following Minnesota Standard of Performance:

- Minn. R. 7011.0565 Incorporation of New Source Performance Standard by Reference for Industrial-Commercial-Institutional Steam Generating Units

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

Level*	Applicable Regulations	Comments:
GP007	Heat Input: ≤ 240 mmBtu/hr for all boilers (Nos. 1-3 & package) Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000	Limit on 24-hr basis according to combined daily fuel meter readings for the four boilers. Facility will remain a synthetic minor PSD source.
EU040	40 CFR pt. 60, subp. Db; Minn. R. 7011.0565	Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units The heat input capacity is 200 mmBtu/yr. Package boiler is natural gas-fired. Annual hours of operation set to 4380 hours to avoid major PSD modification.
EU040	Operation Hours: ≤ 4380 hr/yr Title I Condition: To avoid classification as major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000	Facility limiting hours of operation to less than 4380 hr/yr to avoid a major PSD modification in and of itself.

*Where the requirement appears in the permit (e.g., EU, SV, GP, etc.).

3. Technical Information

Permit Reopening (DQ# 1719 & 1757)

Reopening to set a production limit of ≤ 408 gal/hr of ethanol produced for the fermentation scrubber (CE002/SV004). Also to set a 60 month performance test frequency for volatile organic chemicals (VOC) based on a performance test conducted June 19, 2007. Next test for VOC is due on or before June 19, 2012. DQ 1719 and 1757 are for the same reopening. DQ 1719 was missing the specific due date for the next VOC performance test.

3.1 Emissions Increase Analysis

Attachment 1 to this TSD contains calculations for the uncontrolled and limited potential-to-emit increases involved with this permit action. The package boiler (EU040) is limited to 4380 hours per year of operation to avoid a major Prevention of Significant Deterioration (PSD) modification in and of itself.

3.2 Periodic Monitoring

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

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

- The likelihood of violating the applicable requirements;
- Whether add-on controls are necessary to meet the emission limits;
- The variability of emissions over time;
- The type of monitoring, process, maintenance, or control equipment data already available for the emission unit;
- The technical and economic feasibility of possible periodic monitoring methods; and
- The kind of monitoring found on similar units elsewhere.

The table below summarizes the periodic monitoring requirements for those emission units for which the monitoring required by the applicable requirement is nonexistent or inadequate.

Table 6. Periodic Monitoring

Level*	Requirement (rule basis)	Additional Monitoring	Discussion
GP007	Heat Input: ≤ 240 mmBtu/hr Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000	Monitor and record fuel meter readings on boilers in operation on an hourly basis and calculate mmBtu/hr by the 15 th of each month for the previous month.	Limit to remain a synthetic minor PSD source. Applicable to boilers nos. 1-3 and package boiler.
CE002/ SV004	Ethanol produced: ≤ 408 gal/hr Minn. R. 7017.2025, subp. 3	None	Limit based on 8-hour block average. Downtime of 15 or more minutes not included as operating time.
CE002/ SV004	VOC: ≤ 20.6 lb/hr Title I Condition: To avoid classification as a major source under 40 CFR pt. 52.21 and Minn. R. 7007.3000	Next performance test for VOC due on or before 6/19/12	VOC performance test conducted 6/19/07. Result of 7.71 lb/hr. Test frequency of 60 months accepted

*Where the requirement appears in the permit (e.g., EU, SV, GP, etc.).

3.3 Insignificant Activities

Melrose Dairy Proteins, LLC has several operations which are classified as insignificant activities. These are listed in Appendix A to the permit. There were no new insignificant activities included with this permit action.

3.4 Permit Organization

In general, the permit meets the MPCA Delta Guidance for ordering and grouping of requirements. One area where this permit deviates slightly from Delta guidance is in the use of appendices. While appendices are fully enforceable parts of the permit, in general, any requirement that the MPCA thinks should be tracked (e.g., limits, submittals, etc.), should be in Table A or B. The main reason is that the appendices are word processing sections and are not part of the tracking system. Violation of the appendices can be enforced, but the computer system will not automatically generate the necessary enforcement notices or documents. Staff must generate these.

3.5 Comments Received

Public Notice Period: February 14, 2010 – March 15, 2010

EPA 45-day Review Period: February 14, 2010 – March 30, 2010

Comments were not received from the public during the public notice period. A spelling error in one of the EU040 requirements was corrected. The permit fee assessment portion of this TSD was added after the EPA review period ended.

Comments were not received from EPA during their review period.

4. Permit Fee Assessment

Attachment 3 to this TSD contains the MPCA's assessment of Application and Additional Points used to determine the permit application fee for this permit action as required by Minn. R. 7002.0019. The permit action includes a major amendment and two reopenings received before the effective date of the rule (July 1, 2009). The amendment contains an NSPS review and a limit to avoid prevention of significant deterioration (PSD) which is applicable for 20 additional points.

5. Conclusion

Based on the information provided by Melrose Dairy Proteins, LLC, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 14500003-007 and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team: Tarik Hanafy (permit writer/engineer)
Dave Crowell (enforcement)
Sean O'Connor (stack testing)
Toni Volkmeier (peer reviewer)

AQ File No. 240C; DQ 2685, 1719, 1757

Attachments: 1. Emissions Increase Calculation Spreadsheet

2. Facility Description and CD-01 Forms
3. Points Calculator