AIR EMISSION PERMIT NO. 02700001- 001
IS ISSUED TO

American Crystal Sugar Company

American Crystal Sugar - Moorhead
2500 North 11th Street
Moorhead, Clay County, Minnesota 56560

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

Permit Type	Application Date
Total Facility Operating Permit	January 13, 1995 and October 20, 1995

This permit authorizes the Permittee to operate the stationary source at the address listed above unless otherwise noted in Table A. The Permittee must comply with all the conditions of the permit and with all general conditions listed in Minn. R. 7007.0800, subp. 16, and all standard permit requirements listed in 40 CFR § 70.6(a), which are incorporated by reference. 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 ; Part 70
Issue Date: March 10, 1998
Expiration: March 10, 2003

All Title I Conditions do not expire.

Carolina Espejel-Schutt for
Michael J. Sandusky
Division Manager
Air Quality Division

for Peder A. Larson
Commissioner
Minnesota Pollution Control Agency

BAB:yma

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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	(612)296-6300
Outside Metro Area	1-800-657-3864
TTY	(612)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. Any requirements which have been determined not to apply are listed in Table A of this permit.

The permit shield, however does not apply to Minn. R. ch. 7030 (Noise Pollution Control).

FACILITY DESCRIPTION:

American Crystal Sugar Company owns and operates a sugar beet processing plant at 2500 North 11th Street, Moorhead, Clay County, Minnesota. In addition to this stationary source, the Company owns processing plants in both East Grand Forks and Crookston, Minnesota. The Moorhead plant consists of three coal-fired (subbituminous) boilers which produce process steam; two natural gas-fired pulp dryers; one pulp pelletizer; one pulp pellet cooler; pulp pellet handling, storage and loading equipment; one lime kiln (calciner); one lime slaker; one sugar dryer; one sugar cooler; ash removal systems; a wastewater treatment plant ground flare and dry sugar storage, handling, and sacking equipment.

Particulate matter emissions from the three boilers are controlled by electrostatic precipitators. Other pollution control equipment consists of a multiclone with a hopper-aspiration fabric filter system for each pulp dryer, a cyclone for the pellet cooler, a fabric filter for powdered sugar bagging, fabric filters for sugar storage and conveying, a dual cyclone for the lime kiln, a rotoclone each for the sugar dryer and sugar cooler, and wet collectors (steam addition) for each ash removal system. Coal, coke and limerock are received by rail and stored in uncovered storage piles.

The Moorhead plant employs about 250 people and it operates from late August through May of each year, 24 hours per day. The plant will typically startup two to three days before starting to slice sugar beets and shutdown two to four days after beet slicing has stopped.

This Title V air permit is a consolidation of existing air permits and air quality regulations. New things required by this permit are the need for more stack testing of emission units to show compliance with the standards, daily compliance demonstration methods for all significant emission units, the requirement for computer dispersion modeling of the plants emissions to show compliance with the ambient standards, the requirement to retain an operation and maintenance plan on site describing the proper operation and maintenance of all pollution control equipment on site, and the requirement for submitting a fugitive dust compliance plan.

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/10/98

Facility Name: American Crystal Sugar - Moorhead

Permit Number: 02700001 - 001

Table A contains limits and other requirements with which your facility must comply. The limits are located in the first column of the table (What To do). The limits can be emission limits or operational limits. This column also contains the actions that you must take and the records you must keep to show that you are complying with the limits. The second column of Table A (Why to do it) lists the regulatory basis for these limits. Appendices included as conditions of your permit are listed in Table A under total facility requirements.

Subject Item: **Total Facility**

What to do	Why to do it
Operating and/or production limits will be placed on emission units based on operating conditions during performance testing. Limits set as a result of a perfromance test (conducted before or after permit issuance) apply until new operating/production limits are set following formal review of a performance test as specified by Minn. R. 7017.2025	Minn. R. 7017.2025
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
Monitoring Equipment: Install or make needed repairs to monitoring equipment within 60 days of issuance of the permit if monitoring equipment is not installed and operational on the date the permit is issued.	Minn. R. 7007.0800, subp. 4(D)
Monitoring Equipment Calibration: Annually calibrate all required monitoring equipment (any requirements applying to continuous emission monitors are listed separately in this permit).	Minn. R. 7007.0800, subp. 4(D)
Operation of Monitoring Equipment: Unless otherwise noted in Tables A, B, and/or C, monitoring a process or control equipment connected to that process is not necessary during periods when the process is shutdown, or during checks of the monitoring systems, such as calibration checks and zero and span adjustments. If monitoring records are required, they should reflect any such periods of process shutdown or checks of the monitoring system.	Minn. R. 7007.0800, subp. 4(D)
Circumvention: Do not install or use a device or means that conceals or dilutes emissions, which would otherwise violate a federal or state air pollution control rule, without reducing the total amount of pollutant emitted.	Minn. R. 7011.0020
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 with 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
Initial Notification of Deviations Endangering Human Health or the Environment: Immediately after discovery, notify orally or by facsimile the Commissioner or state duty officer, of any deviation from permit conditions which could endanger human health or the environment.	Minn. R. 7019.1000, subp. 1
Written 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: cause of the deviation; exact dates of the period of the deviation; if the deviation has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the deviation.	Minn. R. 7019.1000, subp. 1
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
Application for Permit Amendment: If you need a permit amendment, submit 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)

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/10/98

Facility Name: American Crystal Sugar - Moorhead

Permit Number: 02700001 - 001

Record keeping: Maintain records describing any insignificant modifications (as required by Minn. R. 7007. 1250, subp. 3) or changes contravening permit terms (as required by Minn. R. 7007.1350 subp. 2), including records of the emissions resulting from those changes.	Minn. R. 7007. 0800, subp. 5(B)
Record keeping: Retain all records at the stationary source for a period of five (5) years from the date of monitoring, sample, measurement, or report. Records which must be retained at this location include all calibration and maintenance records, all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Records must conform to the requirements listed in Minn. R. 7007.0800, subp. 5(A).	Minn. R. 7007.0800, subp. 5(C)
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 federally enforceable.	Minn. R. 7030.0010 - 7030.0080
The Permittee shall comply with the General Condtions listed in Minn. R. 7007.0800, subp. 16	Minn. R. 7007.0800, subp. 16
Inspections: Upon presentation of credentials and other documents as may be required by law, allow the Agency, or its representative, to enter the Permittee's premises to have access to and copy any records required by this permit, to inspect at reasonable times (which include any time the source is operating) any facilities, equipment, practices or operations, and to sample or monitor any substances or parameters at any location.	Minn. R. 7007.0800, subp. 9(A)
Emission Fees: due 60 days after receipt of an MPCA bill.	Minn. R. 7002.0005 through Minn. R. 7002.0095

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/10/98

Facility Name: American Crystal Sugar - Moorhead

Permit Number: 02700001 - 001

Subject Item: **GP 001 Boilers #1, #2, and #3**

Associated Items: EU 001 Boiler #1, North

EU 002 Boiler #2, Center

EU 003 Boiler #3, South

What to do	Why to do it
Fuel Limitation (Used Oil and Used Oil Sorbents): less than 1,250 gallons per month of on-site generated used oil/used oil sorbents based on a 12-month rolling average.	Minn. R. 7007.0800, subp. 2
Fuel Limitation Recordkeeping: The Permittee shall maintain records of the amount of used oil and used oil sorbents combusted in the boilers every month and generate and maintain on-site a 12-month rolling sum of this usage.	Minn. R. 7007.0800, subp. 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/10/98

Facility Name: American Crystal Sugar - Moorhead

Permit Number: 02700001 - 001

Subject Item: **GP 002 Insignificant Materials Handling Sources**

Associated Items: EU 009 Pneumatic Pellet Conveying System

EU 012 Packaging Vacuum System

EU 013 Packaging Dust Control System No. 1

EU 014 Packaging Dust Control System No. 2

EU 015 Packaging Dust Control System No. 3

EU 016 Sugar Silo Dust Control System (8 identical)

EU 017 Sugar Silo Dust Control System (8 identical)

EU 018 Sugar Silo Dust Control System (8 identical)

EU 019 Sugar Silo Dust Control System (8 identical)

EU 020 Sugar Silo Dust Control System (8 identical)

EU 021 Sugar Silo Dust Control System (8 identical)

EU 022 Sugar Silo Dust Control System (8 identical)

EU 023 Sugar Silo Dust Control System (8 identical)

EU 024 Sugar storage conveyor system

EU 025 Weibull Bin Dust Control System

EU 026 Ash Removal System, boilers

EU 027 Ash Removal System, Precipitators

EU 028 Starch Bin Receiving System

EU 031 Pulp Pellet Area Dust Control System

EU 032 Sugar Reclaim (Azo) System

EU 033 Bag Clipping Collection System

EU 034 Brown Sugar Batching Conveying System

EU 035 Powdered Sugar Reclaim/Cube LIne Conveyer

EU 036 Bag in box conveyor system

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 (this limit applies individually to each emission unit listed above under Associated Items).	Minn. R. 7011.0715, subp. 1(A)
Opacity: less than or equal to 20 percent opacity (this limit applies individually to each emission unit listed above under Associated Items).	Minn. R. 7011.0715, subp. 1(B)
Operation and Maintenance Plan Requirement: All emission units listed above under Associated Items shall be covered in the facility Operation and Maintenance Plan.	Minn. R. 7011.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/10/98

Facility Name: American Crystal Sugar - Moorhead

Permit Number: 02700001 - 001

Subject Item: **EU 001 Boiler #1, North**

Associated Items: CE 001 Electrostatic Precipitator - High Efficiency

GP 001 Boilers #1, #2, and #3

SV 001

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.6 lbs/million Btu heat input	Minn. R. 7011.0510, subp. 1
Opacity: less than or equal to 20 percent opacity except that a maximum of 60% opacity shall be permissible for four minutes in any 60-minute period, and that a maximum of 40% shall be permissible for four additional minutes in any 60-minute period.	Minn. R. 7011.0510, subp. 2
Sulfur Dioxide: less than or equal to 1.0 lbs/million Btu heat input	Minn. R. 7007.0800, subp. 2; meets the requirements of Minn. R. 7011.0510, subp. 1
Sulfur Content of Fuel: less than or equal to 0.55 percent by weight for subbituminous coal.	Minn. R. 7007.0800, subp. 2
Fuels Allowed: subbituminous coal, on-site generated used oil, and used oil sorbents.	Minn. R. 7007.0800, subp. 2
Boiler Pollution Control Equipment Requirement: The Permittee shall operate the electrostatic precipitator (CE001) on EU 001 with no less than the number of fields online as during the most recent performance test that has shown compliance with the total particulate matter standard in Minn. R. 7011.0510, subp. 1.	Minn. R. 7007.0800, subp. 14
Boiler Pollution Control Equipment Monitoring/Recordkeeping: The Permittee shall record the number of fields online in the electrostatic precipitator for EU 001, once each day while in operation.	Minn. R. 7007.0800, subp. 5
The Permittee shall measure the fuel sulfur content by either Method 1 or 2. All fuel sulfur content data shall be recorded at the time the data is received. Method 1. The Permittee shall obtain and maintain a fuel supplier receipt from the fuel supplier for each shipment of subbituminous coal delivered certifying that the shipment complies with the current American Society of Testing and Materials (ASTM) specification for the respective fuel and that the sulfur content is less than or equal to the fuel sulfur content limitation. OR (continued on next requirement)	Minn. R. 7007.0800, subp. 5
Method 2. The Permittee may also analyze the fuel in the following manner: a) The Permittee shall sample the fuel after each delivery but not more than once each calendar week when multiple deliveries are made in a calendar week. Sampling shall be conducted within 48 hours after each delivery, or within 48 hours after the last of multiple deliveries in a calendar week. Samples shall be collected from a representative location. Record the date and time of delivery, time of fuel sampling, initials of person recording the information, and the results of the fuel analysis. b) The Permittee shall analyze the fuel sample to determine sulfur content of the fuel in percent by weight, in accordance with the current ASTM method.	Minn. R. 7007.0800, subp. 5
Initial Performance Test: due 180 days after Permit Issuance to measure particulate matter and sulfur dioxide emissions.	Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before Initial Performance Test	Minn. R. 7017.2030, subp. 4

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/10/98

Facility Name: American Crystal Sugar - Moorhead

Permit Number: 02700001 - 001

Subject Item: **EU 002 Boiler #2, Center**

Associated Items: CE 002 Electrostatic Precipitator - High Efficiency

GP 001 Boilers #1, #2, and #3

SV 002

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.6 lbs/million Btu heat input	Minn. R. 7011.0510, subp. 1
Opacity: less than or equal to 20 percent opacity except that a maximum of 60% opacity shall be permissible for four minutes in any 60-minute period, and that a maximum of 40% shall be permissible for four additional minutes in any 60-minute period.	Minn. R. 7011.0510, subp. 2
Sulfur Dioxide: less than or equal to 1.0 lbs/million Btu heat input	Minn. R. 7007.0800, subp. 2; meets the requirements of Minn. R. 7011.0510, subp. 1
Fuels Allowed: subbituminous coal, on-site generated used oil, and used oil sorbents.	Minn. R. 7007.0800, subp. 2
Boiler Pollution Control Equipment Requirement: The Permittee shall operate the electrostatic precipitator (CE002) on EU 002 with no less than the number of fields online as during the most recent performance test that has shown compliance with the total particulate matter standard in Minn. R. 7011.0510, subp. 1.	Minn. R. 7007.0800, subp. 14
Boiler Pollution Control Equipment Monitoring/Recordkeeping: The Permittee shall record the number of fields online in the electrostatic precipitator for EU 002, once each day while in operation.	Minn. R. 7007.0800, subp. 5
Sulfur Content of Fuel: less than or equal to 0.55 percent by weight for subbituminous coal.	Minn. R. 7007.0800, subp. 2
The Permittee shall measure the fuel sulfur content by either Method 1 or 2. All fuel sulfur content data shall be recorded when the data is received. Method 1. The Permittee shall obtain and maintain a fuel supplier receipt from the fuel supplier for each shipment of subbituminous coal delivered certifying that the shipment complies with the current American Society of Testing and Materials (ASTM) specification for the respective fuel and that the sulfur content is less than or equal to the fuel sulfur content limitation. OR (continued on next requirement)	Minn. R. 7007.0800, subp. 5
Method 2. The Permittee may also analyze the fuel in the following manner: a) The Permittee shall sample the fuel after each delivery but not more than once each calendar week when multiple deliveries are made in a calendar week. Sampling shall be conducted within 48 hours after each delivery, or within 48 hours after the last of multiple deliveries in a calendar week. Samples shall be collected from a representative location. Record the date and time of delivery, time of fuel sampling, initials of person recording the information, and the results of the fuel analysis. b) The Permittee shall analyze the fuel sample to determine sulfur content of the fuel in percent by weight, in accordance with the current ASTM method.	Minn. R. 7007.0800, subp. 5
Initial Performance Test: due 180 days after Permit Issuance to measure particulate matter and sulfur dioxide emissions.	Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before Initial Performance Test	Minn. R. 7017.2030, subp. 4

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/10/98

Facility Name: American Crystal Sugar - Moorhead

Permit Number: 02700001 - 001

Subject Item: **EU 003 Boiler #3, South**

Associated Items: CE 003 Electrostatic Precipitator - High Efficiency

GP 001 Boilers #1, #2, and #3

SV 003

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.6 lbs/million Btu heat input	Minn. R. 7011.0510, subp. 1
Opacity: less than or equal to 20 percent opacity except that a maximum of 60% opacity shall be permissible for four minutes in any 60-minute period, and that a maximum of 40% shall be permissible for four additional minutes in any 60-minute period.	Minn. R. 7011.0510, subp. 2
Sulfur Dioxide: less than or equal to 1.0 lbs/million Btu heat input	Minn. R. 7007.0800, subp. 2; meets the requirements of Minn. R. 7011.0510, subp. 1
Fuels Allowed: subbituminous coal, on-site generated used oil, and used oil sorbents.	Minn. R. 7007.0800, subp. 2
Boiler Pollution Control Equipment Requirement: The Permittee shall operate the electrostatic precipitator (CE003) on EU 003 with no less than the number of fields online as during the most recent performance test that has shown compliance with the total particulate matter standard in Minn. R. 7011.0510, subp. 1.	Minn. R. 7007.0800, subp. 14
Boiler Pollution Control Equipment Monitoring/Recordkeeping: The Permittee shall record the minimum number of fields online in the electrostatic precipitator for EU 003, once each day while in operation.	Minn. R. 7007.0800, subp. 5
Sulfur Content of Fuel: less than or equal to 0.55 percent by weight for subbituminous coal.	Minn. R. 7007.0800, subp. 2
The Permittee shall measure the fuel sulfur content by either Method 1 or 2. All fuel sulfur content data shall be recorded at the time the data is received. Method 1. The Permittee shall obtain and maintain a fuel supplier receipt from the fuel supplier for each shipment of subbituminous coal delivered certifying that the shipment complies with the current American Society of Testing and Materials (ASTM) specification for the respective fuel and that the sulfur content is less than or equal to the fuel sulfur content limitation. OR (continued on next requirement)	Minn. R. 7007.0800, subp. 5
Method 2. The Permittee may also analyze the fuel in the following manner: a) The Permittee shall sample the fuel after each delivery but not more than once each calendar week when multiple deliveries are made in a calendar week. Sampling shall be conducted within 48 hours after each delivery, or within 48 hours after the last of multiple deliveries in a calendar week. Samples shall be collected from a representative location. Record the date and time of delivery, time of fuel sampling, initials of person recording the information, and the results of the fuel analysis. b) The Permittee shall analyze the fuel sample to determine sulfur content of the fuel in percent by weight, in accordance with the current ASTM method.	Minn. R. 7007.0800, subp. 5
Initial Performance Test: due 180 days after Permit Issuance to measure particulate matter and sulfur dioxide emissions.	Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before Initial Performance Test	Minn. R. 7017.2030, subp. 4

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/10/98

Facility Name: American Crystal Sugar - Moorhead

Permit Number: 02700001 - 001

Subject Item: **EU 005 Vertical Lime kiln**

Associated Items: CE 004 Centrifugal Collector - High Efficiency

CE 005 Other

SV 005

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.	Minn. R. 7011.0610, subp. 1(A)(1)
Opacity: less than or equal to 20 percent opacity , except that a maximum of 60% opacity shall be permissible for four minutes in any 60-minute period, and that a maximum of 40% shall be permissible for four additional minutes in any 60-minute period.	Minn. R. 7011.0610, subp. 1(A)(2)
Sulfur Dioxide: less than or equal to 4.0 lbs/million Btu heat input	Minn. R. 7011.0610, subp. 2(B)
Fuels Allowed: industrial oven coke as the main fuel source and propane and wood as fuels for initiating combustion of the coke.	Minn. R. 7007.0800, subp. 2
Monitoring of Pollution Control Equipment: The Permittee shall monitor and record the pressure drop across the dual cyclone system once each day while in operation.	Minn. R. 7007.0800, subp. 4, Minn. R. 7007.0800, subp. 5, and Minn. R. 7007.0800, subp. 14

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/10/98

Facility Name: American Crystal Sugar - Moorhead

Permit Number: 02700001 - 001

Subject Item: **EU 006 South Pulp Dryer**

Associated Items: CE 007 Multiple Cyclone w/Fly Ash Reinjection-Common w/Coal Boilers

CE 008 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

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.	Minn. R. 7011.0610, subp. 1(A)(1)
Opacity: less than or equal to 20 percent opacity , except that a maximum of 60% opacity shall be permissible for four minutes in any 60-minute period, and that a maximum of 40% shall be permissible for four additional minutes in any 60-minute period.	Minn. R. 7011.0610, subp. 1(A)(2)
Fuels Allowed: natural gas only.	Minn. R. 7007.0800, subp. 2
Monitoring of Pollution Control Equipment: The Permittee shall monitor and record the pressure drops across the multiclone and the fabric filter baghouse once each day while in operation.	Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 4, and Minn. R. 7007.0800, subp. 5
Performance Test: due before end of each 36 months starting 12/18/96 to measure particulate matter emissions. The tests shall be conducted at an interval not to exceed 36 months between test dates.	Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before end of each 36 months following Performance Test (7 days before each Performance Test)	Minn. R. 7017.2030, subp. 4

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/10/98

Facility Name: American Crystal Sugar - Moorhead

Permit Number: 02700001 - 001

Subject Item: **EU 007 North Pulp Dryer**

Associated Items: CE 009 Multiple Cyclone w/Fly Ash Reinjection-Common w/Coal Boilers

CE 010 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

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.	Minn. R. 7011.0610, subp. 1(A)(1)
Opacity: less than or equal to 20 percent opacity , except that a maximum of 60% opacity shall be permissible for four minutes in any 60-minute period, and that a maximum of 40% shall be permissible for four additional minutes in any 60-minute period.	Minn. R. 7011.0610, subp. 1(A)(2)
Fuels Allowed: natural gas and biogas (methane) from the wastewater treatment system only.	Minn. R. 7007.0800, subp. 2
Monitoring of Pollution Control Equipment: The Permittee shall monitor and record the pressure drops across the multiclone and the fabric filter baghouse once each day while in operation.	Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 4, and Minn. R. 7007.0800, subp. 5
Performance Test: due before end of each 60 months starting 11/21/96 to measure particulate mattter emissions. The tests shall be conducted at an interval not to exceed 60 months between test dates	Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before end of each 60 months following Performance Test (7 days before each Performance Test)	Minn. R. 7017.2030, subp. 4

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/10/98

Facility Name: American Crystal Sugar - Moorhead

Permit Number: 02700001 - 001

Subject Item: **EU 008 Pulp Pellet Cooler**

Associated Items: CE 011 Centrifugal Collector - High Efficiency

What to do	Why to do it
Particulate Matter < 10 micron: less than or equal to 2.0 lbs/hour	Title I Condition: to remain a non-major modification under 40 CFR Section 52.21
Total Particulate Matter: less than or equal to 2.0 lbs/hour	Title I Condition: to remain a non-major modification under 40 CFR Section 52.21
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0715, subp. 1(B)
Operating Hours: less than or equal to 6000 hours/year	Title I Condition: to remain a non-major modification under 40 CFR Section 52.21
Record Keeping: The Permittee shall keep records of the hours of operation of EU 008 on a daily basis.	Minn. R. 7007.0800, subp. 5
Monitoring of Pollution Control Equipment: The Permittee shall monitor and record the pressure drop across the cyclone once each day while in operation.	Title I Condition: to remain a non-major modification under 40 CFR Section 52.21
Initial Performance Test: due 180 days after Permit Issuance to measure particulate matter and opacity emissions.	Title I Condition: to remain a non-major modification under 40 CFR Section 52.21
Performance Test Pre-test Meeting: due 7 days before Initial Performance Test	Minn. R. 7017.2030, subp. 4

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/10/98

Facility Name: American Crystal Sugar - Moorhead

Permit Number: 02700001 - 001

Subject Item: **EU 010 Sugar Dryer**

Associated Items: CE 012 Dynamic Separator (Wet)

What to do	Why to do it
Particulate Matter < 10 micron: less than or equal to 4.5 lbs/hour	Title I Condition: to remain a non-major modification under 40 CFR Section 52.21
Total Particulate Matter: less than or equal to 4.5 lbs/hour	Title I Condition: to remain a non-major modification under 40 CFR Section 52.21
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0715, subp. 1(B)
Operating Hours: less than or equal to 6000 hours/year	Title I Condition: to remain a non-major modification under 40 CFR Section 52.21
Record Keeping: The Permittee shall keep records of the hours of operation of EU 010 on a daily basis.	Minn. R. 7007.0800, subp. 5
Monitoring of Pollution Control Equipment: The Permittee shall monitor and record the liquid supply pressure (in pounds per square inch) and liquid flow rate (in gallons per minute) to the rotoclone once each day while in operation.	Title I Condition: to remain a non-major modification under 40 CFR Section 52.21
Initial Performance Test: due 180 days after Permit Issuance to measure particulate matter and opacity emissions.	Title I Condition: to remain a non-major modification under 40 CFR Section 52.21
Performance Test Pre-test Meeting: due 7 days before Initial Performance Test	Minn. R. 7017.2030, subp. 4

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/10/98

Facility Name: American Crystal Sugar - Moorhead

Permit Number: 02700001 - 001

Subject Item: **EU 011 Sugar Cooler**

Associated Items: CE 013 Dynamic Separator (Wet)

What to do	Why to do it
Particulate Matter < 10 micron: less than or equal to 5.8 lbs/hour	Title I Condition: to remain a non-major modification under 40 CFR Section 52.21
Total Particulate Matter: less than or equal to 5.8 lbs/hour	Title I Condition: to remain a non-major modification under 40 CFR Section 52.21
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0715, subp. 1(B)
Operating Hours: less than or equal to 6000 hours/year	Title I Condition: to remain a non-major modification under 40 CFR Section 52.21
Record Keeping: The Permittee shall keep records of the hours of operation of EU 011 on a daily basis.	Minn. R. 7007.0800, subp. 5
Monitoring of Pollution Control Equipment: The Permittee shall monitor and record the liquid supply pressure (in pounds per square inch) and liquid flow rate (in gallons per minute) to the rotoclone once each day while in operation.	Title I Condition: to remain a non-major modification under 40 CFR Section 52.21
Initial Performance Test: due 180 days after Permit Issuance to measure particulate matter and opacity emissions.	Title I Condition: to remain a non-major modification under 40 CFR Section 52.21
Performance Test Pre-test Meeting: due 7 days before Initial Performance Test	Minn. R. 7017.2030, subp. 4

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/10/98

Facility Name: American Crystal Sugar - Moorhead

Permit Number: 02700001 - 001

Subject Item: EU 029 Emergency Electrical Generator Set

What to do	Why to do it
Opacity: less than or equal to 20 percent opacity once operating temperatures have been attained.	Minn. R. 7011.2300, subp. 1
Sulfur Dioxide: less than or equal to 0.5 lbs/million Btu heat input	Minn. R. 7011.2300, subp. 2
Fuels Allowed: distillate fuel oil only.	Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/10/98

Facility Name: American Crystal Sugar - Moorhead

Permit Number: 02700001 - 001

Subject Item: EU 030 Ground Flare

What to do	Why to do it
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0110

TABLE B: SUBMITTALS

03/10/98

Facility Name: American Crystal Sugar - Moorhead

Permit Number: 02700001 - 001

Table B lists the submittals you must send to the Commissioner. Table B is divided into two sections, for source-specific submittal requirements and for submittals required of all permittees. Source-specific submittals are further organized as either one-time only or recurrent requirements. You may also be subject to additional reporting requirements contained in the compliance schedule located in Table C of this permit. All submittals must be postmarked or received by the date specified in the table, and certified by a responsible official, defined in Minn. R. 7007.0100, subp. 21. Submittals which must be provided on standardized forms approved by the Commissioner are noted in Tables B and C.

Send any application for a permit or permit amendment to: Permit Information Coordinator, Permit Section, Air Quality Division, Minnesota Pollution Control Agency, 520 Lafayette Road North, St. Paul, Minnesota 55155-4914. Also send the Permit Information Coordinator notices of: accumulated insignificant activities, installation of control equipment, replacement of an emissions unit, and changes that contravene a permit term.

Send all other submittals to: Compliance Tracking Coordinator, Compliance Determination Unit, Air Quality Division, Minnesota Pollution Control Agency, 520 Lafayette Road North, St. Paul, Minnesota 55155-4194.

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS

03/10/98

Facility Name: American Crystal Sugar - Moorhead

Permit Number: 02700001 - 001

What to send	When to send	Portion of Facility Affected
Application for Permit Reissuance	due 180 days before expiration of Existing Permit	Total Facility
Computer Dispersion Modeling Protocol	due 180 days after Permit Issuance . Dispersion modeling is required for PM-10, SO2, and NOx. The protocol will describe the proposed modeling methodology and input data in accordance with all requirements of 40 CFR pt. 51, App. W. The protocol may be based on proposed operating conditions under the next permit term if necessary.	Total Facility
Computer Dispersion Modeling Results	due 365 days after Permit Issuance	Total Facility
Fugitive Control Plan	due 60 days after Permit Issuance for review and approval by the Commissioner. The plan shall identify all fugitive emission sources, primary and contingent control measures, and records kept, if any.	Total Facility
Operation and Maintenance Plan	due 60 days after Permit Issuance summarizing the operation and maintenance for all pollution control equipment. Included in the plan should be the manufacturer's recommended operating ranges for parameters such as pressure drop across the system, liquid flow rate, liquid supply pressure, etc.; corrective action procedures to be followed to return the control equipment to within specified range(s); corrective action procedures to be followed in the event of a malfunction or breakdown; a description of inspection procedures to be followed; and records kept to demonstrate plan implementation.	Total Facility
Performance Test Notification (written)	due 30 days before Initial Performance Test	EU001, EU002, EU003, EU008, EU010, EU011
Performance Test Plan	due 30 days before Initial Performance Test	EU001, EU002, EU003, EU008, EU010, EU011
Performance Test Report - Microfiche Copy	due 105 days after Initial Performance Test	EU001, EU002, EU003, EU008, EU010, EU011
Performance Test Report	due 45 days after Initial Performance Test	EU001, EU002, EU003, EU008, EU010, EU011
Testing Frequency Plan	due 60 days after Initial Performance Test for particulate matter and opacity emissions. 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	EU008, EU010, EU011
Testing Frequency Plan	due 60 days after Initial Performance Test for particulate matter, sulfur dioxide, and opacity emissions. 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.	EU003

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS

Facility Name: American Crystal Sugar - Moorhead

Permit Number: 02700001 - 001

Testing Frequency Plan	due 60 days after Initial Performance Test for particulate matter, sulfur dioxide, and opacity emissions. 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 Company will be allowed to alternate testing between Boiler Nos. 1 and 2 provided the testing frequency determined by the initial performance test is greater than a year (12 months) for both units.	EU001, EU002

TABLE B: RECURRENT SUBMITTALS

03/10/98

Facility Name: American Crystal Sugar - Moorhead

Permit Number: 02700001 - 001

What to send	When to send	Portion of Facility Affected
Semiannual Deviations Report	due 30 days after end of each calendar half-year following Permit Issuance . The first report of each calendar year covers January 1 - June 30. The second report of each calendar year covers July 1 - December 31.	Total Facility
Compliance Certification	due 30 days after end of each calendar year following Permit Issuance . The report covers all deviations experienced during the calendar year.	Total Facility
Emissions 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.	Total Facility
Performance Test Notification (written)	due 30 days before end of each 36 months following Performance Test (30 days before each Performance Test)	EU006
Performance Test Plan	due 30 days before end of each 36 months following Performance Test (30 days before each Performance Test)	EU006
Performance Test Report - Microfiche Copy	due 105 days after end of each 36 months following Performance Test (105 days after each Performance Test)	EU006
Performance Test Report	due 45 days after end of each 36 months following Performance Test (45 days after each Performance Test)	EU006
Performance Test Notification (written)	due 30 days before end of each 60 months following Performance Test (30 days before each Performance Test)	EU007
Performance Test Plan	due 30 days before end of each 60 months following Performance Test (30 days before each Performance Test)	EU007
Performance Test Report - Microfiche Copy	due 105 days after end of each 60 months following Performance Test (105 days after each Performance Test)	EU007
Performance Test Report	due 45 days after end of each 60 months following Performance Test (45 days after each Performance Test)	EU007

TECHNICAL SUPPORT DOCUMENT
For
AIR EMISSION PERMIT NO. 02700001-001

This Technical Support Document (TSD) is for all the interested parties of the permit. The purpose of this document is to set forth the legal and factual basis for the permit conditions, including references to the applicable statutory or regulatory provisions.

1. General Information

1.1. Applicant and Stationary Source Location:

Owner and Operator Address and Phone Number	Facility Address (SIC Code: 2063)
American Crystal Sugar Company 101 North Third Street Moorhead, Minnesota 56560 Contact: Mr. Joel C. Smith, Regulatory Affairs Manager (218)236-4347	American Crystal Sugar Company 2500 North 11th Street Moorhead, Minnesota 56560 Contact: Mr. Larry Carlson, Factory Environmental Coordinator (218)236-4380

1.2. Description of the facility

American Crystal Sugar Company owns and operates a sugar beet processing plant at 2500 North 11th Street, Moorhead, Clay County, Minnesota. In addition to this stationary source, the company owns processing plants in both East Grand Forks and Crookston, Minnesota and also has a research center in Moorhead. The Moorhead plant consists of three coal-fired (subbituminous) boilers which produce process steam; two natural gas-fired pulp dryers; one pulp pellet cooler; pulp pellet handling, storage and loading equipment; one lime kiln (calciner); one lime slaker; one sugar dryer; one sugar cooler; ash removal systems; a wastewater treatment plant ground flare and dry sugar storage, handling, and sacking equipment.

Much of the sugar storage, handling, and sacking equipment is considered insignificant emission units along with the ash removal system equipment. This equipment is contained in the permit (as GP 002) but does not have any direct compliance demonstration requirements. However the equipment is to be covered in the facility's operations and maintenance plan. Based on a soon-to-be-issued memo from Ann Foss it is okay to use the Group level to group individual units as long as they don't have to be trackable. Since these units are insignificant there is no compliance demonstration requirement and thus are not trackable. These units were determined to be insignificant units based on the assumption that the outlet concentration of particulate matter exiting the baghouses is less than or equal to 0.02 grains per dry standard cubic foot. Based on this assumption, any baghouse with an exhaust gas flow rate of less than 13,318 ACFM is considered an insignificant source under Minn. R. 7007.1300, subp. 4, because the Particulate Matter (PM) emissions are less than 2.28 pounds per hour or 10 tons per year. The basis of the 0.02 grains per dry standard cubic foot emission factor is an engineering assumption based on past experience including stack testing results on baghouses.

PM emissions from the three boilers are controlled by electrostatic precipitators. Other pollution control equipment consists of a multiclone with a hopper-aspiration fabric filter system for each pulp dryer, a cyclone for the pellet cooler, a fabric filter for powdered sugar bagging, fabric filters for sugar storage and conveying, a dual cyclone for the lime kiln, a rotoclone each for the sugar dryer and sugar cooler, and wet collectors for each ash removal system. Coal, coke and limerock are received by rail and stored in uncovered storage piles.

The Moorhead plant employs about 250 people and it operates from late August through May of each year, 24 hours per day. The plant will typically startup two to three days before starting to slice sugar beets and shutdown two to four days after beet slicing has stopped.

1.2.1 Specifics on Various Emission Units

Boilers (EU 001, EU 002, and EU 003)

American Crystal Sugar has opted to take a lower sulfur dioxide limit and sulfur content of coal limit than the Minnesota Rules require. This declaration is contained in the August 6, 1997, letter from them that is attached to this TSD. The sulfur content of coal testing requirements were copied from a Delta permit for a utility plant.

The permit application describes a fourth boiler at the plant, the intercampaign boiler (EU 004). The August 6, 1997, letter describes how this boiler is inoperable and thus will not be a part of the Title V permit.

Much discussion was held on what stack testing frequency should be required for the three remaining boilers. It was decided that since the last time these boilers were stack tested was the early 70's, that all three boilers should be tested once again for PM and Sulfur Dioxide (SO_2) and the future test frequency will be set based upon the results of these tests.

For the ESPs the only requirement for compliance monitoring is to record the number of ESP fields on-line. Recording this parameter and not voltage, amperage, and spark rate was based upon the Control Equipment Requirements Work group findings that this is the only parameter worth recording. The boiler section of this permit was reviewed by Marshall Cole for consistency with other boiler permits in the state.

In GP 001, the limit for used oil and used oil sorbent burning was set based upon the utility group decision of allowing up to five percent of the heat input to come from these fuels and also by what ACS wanted to be allowed to burn.

Lime Kiln

One should note that with the lime kiln at the plant that the majority of the emissions are drawn out of the kiln and end up in solution. The solution is used in the beet purifying process. Thus most of the emissions from the kiln are never emitted to atmosphere but are in a sense scrubbed by the process.

Pulp Dryers

The pulp dryer originally burned coal and later converted to natural gas burning only. The stack testing frequency listed in the permit is based upon stack testing done after the conversion to natural gas only in 1996. Note that the north pulp dryer is allowed to burn natural gas *and* biogas from the wastewater treatment system. The biogas consists of between 20 percent and 40 percent of the fuel burned and consists of about 68 percent (on the average) methane and has a slightly higher sulfur content than natural gas.

Pulp Pellet Cooler, Sugar Dryer, and Sugar Cooler

These units are the only units at the plant that have existing Prevention of Significant Deterioration (PSD) limits that carry over into this Title V permit. The pulp pellet cooler (EU 008) was installed in 1984, and was a synthetic minor source. There is an hours of operation limit (6000 hours per year) from an October 1995, permit (that revises the 1984 permit) and a PM limit set to assure the modification was non-major (see the two pages attached from the 1995 TSD).

For the sugar dryer (EU 010) and sugar cooler (EU 011), these units are also synthetic minor PSD units and have the same 6000 hours per year operation limit and have PM limits set to keep the sources non-major. Discussion went on during this permitting process to lift these 6000 hour limitations (as discussed in the upcoming section on miscellaneous information).

Insignificant Materials Handling Sources

It was difficult obtaining concrete data from ACS that would show these sources were insignificant units. Thus best engineering assumptions were used to show these units are insignificant and thus daily compliance monitoring is not required. Emission calculations are attached that describe these emissions further.

Miscellaneous

The permit application contained a few emission units that were deemed insignificant before ever drafting the permit. These sources include the lime slaker and the classifier.

It is also important to note that the permit team did address the issue of odor at the plant. Many things were considered such as air monitoring, air modeling, and pollution control equipment installation for odor. It was determined that the best approach to the issue was to leave it up to the plant to proceed with the efforts they are currently undertaking to abate odor. The plant has installed sludge filter presses to reduce odor from the lime ponds and they have added a bacteria called BioAct to the wastewater flow to complex with the sulfides and precipitate out the odor causing materials. More recently they have experimented with applying barley straw 8 to 12 inches thick on the ponds to absorb odors. The experiment was done at the East Grand Forks plant and is planned to be implemented at the Moorhead plant next year.

It is also important to note that ACS chose to do some preliminary air quality dispersion modeling in regards to some potential expansion plans for the facility and for potentially lifting the 6000 hours per year (250 days per year) operation limit on the sugar cooler and sugar dryer which effectively limits the entire plant to 250 days of operation per year. The modeling was done assuming that the plant operates 365 days per year and thus does not represent the plant as it exists today and as this permit portrays. However considering this discrepancy the plant still showed some potential modeled non-compliance situations. SO_2 and Particulate Matter less than 10 um in size (PM_{-10}) were the pollutants that showed non-compliance. The sulfur dioxide non-compliance was attributable to the coal-fired boilers and was stated as being correctable if the stack heights were increased. The PM_{-10} non-compliance was attributable to the sugar dryer, sugar cooler, sugar silos, ash removal systems, pulp pellet loadout, raw material storage piles, and fugitive vehicle emissions. More information, including the proposed corrective actions , can be found in the "Ambient Air Quality Dispersion Modeling Analysis" report submitted on October 16, 1997.

The end result of this modeling analysis was to require the Title V modeling requirements to be pushed ahead from requiring the protocol in three years and the results in four years to six months and one year respectively.

1.3 Description of any changes allowed with this permit issuance

The MPCA received the Title V permit application from American Crystal Sugar Company on time, January 13, 1995 (due January 15, 1995). No EAW or EIS was required as a part of this permit application. The permit is for the continued operation of the existing beet processing facility (limited to 6000 hours per year or 250 days per year). No new construction is requested nor granted with this permit.

1.4 Description of all previous permits issued to this facility

Permit Number and Issuance Date	Action Authorized
29A-73-I-1 1973	Installation of three scrubbers on the pulp dryers.
29-73-I-2 1973	Installation of electrostatic precipitators on the three coal boilers
29A-75-I-3 1975	Installation of scrubbers on the pulp dryers (new/different units)
29A-76-I-4 1976	Installation of fertilizer plant ion exchange system (now defunct)
29A-78-I-2A 1978	Installation of electrostatic precipitators on the three coal boilers
29A-79-O-2A 1979	Operation of the intercampaign boiler using fuel oil (now defunct)
29A-80-I-5 1980	Installation of a product receiving cyclone and venturi scrubber for the fertilizer plant (now defunct)
29A-80-O-1 1980	Operation of the four boilers
29A-82-I-6 1982	Installation of a lime dust abatement system
29A-84-I/O-8 1984	Installation and operation of the pulp pellet cooler
29A-80-O-1 1984	Amd. No. 1 to previous permit to modify coal testing program and coal burning limit.
29A-88-O-7 1988	Installation of rotoclones on sugar granulator and sugar cooler.
29A-88-I/O-9 1988	Installation of fiber plant (now defunct)
29A-91-OT-1 1991	Draft total facility permit for entire plant. Was never issued.
29A-93-P-1 1993	Permit for fuel storage tanks.
02700001-011 (29A-95-I/O-1) 1995	Installation and operation of modification to the pulp dryers; converted to burning natural gas only.
02700001-012 (29A-95-I/O-2) 1995	Installation and operation of rotoclones on the pulp pellet cooler, sugar granulator, and sugar cooler.

1.5. Facility Emissions:

Table 1. Total Facility Potential to Emit Summary:

	PM tpy	PM10 tpy	SO2 tpy	NOx tpy	CO tpy	VOC tpy	Pb tpy	All HAPs tpy
Total Facility Limited Potential Emissions*	900	807	2,481	2,074	778	12	1.3	10.2
Total Facility Actual Emissions*	553	208	811	1,177	250	4	0.3	------

*These are the limited potential emissions from column 3 in GI-07 from Delta. These are the potential emissions that would appear in a public notice.

Table 2. Facility and Permit Classification

Classification (put x in appropriate box)	Major/Affected Source	*Synthetic Minor	*Minor
PSD (list pollutant)	PM, PM_{-10}, SO_2, NO_x, & CO		
NAAR (list pollutant) **Not Applicable**			
Part 70 Permit Program (list pollutant)	PM, PM_{-10}, SO_2, NO_X, & CO		

* 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

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

Regulatory Overview of Facility

No NSPS rules or NESHAP rules apply to this total facility permit. The emissions limits are based on previous NSR (PSD) Best Available Control Technology (BACT) limits and state of Minnesota requirements. A review of the unit operations of the plant indicates the facility is exempt from 40 CFR pt. 60, requirements (NSPS). The three main boilers, with rated inputs of 114 MMBtu/hour to 164 MMBtu/hour, are not subject to 40 CFR pt. 60, subp. Db, because they were constructed before June 19, 1984. Additionally, the lime kiln is not subject to 40 CFR pt. 60, subp. HH, because (1) it is not a rotary lime kiln, and (2) it was constructed before May 3, 1977.

The plant does not emit any of the pollutants regulated under 40 CFR pt. 61. As a result, this part of the rule does not apply. Potential emissions of pollutants regulated under 40 CFR pt. 63, are less than the threshold quantities of 10 tons per year of any single pollutant, and less than 25 tons per year of the regulated pollutants in aggregate. Therefore, this source is not subject to the provisions of 40 CFR pt. 63.

EU No.	Applicable Regulations	*Comments:
EU001 - EU003	Minn. R. 7011.0510 - 7011.0515	Standards of Performance for Existing Indirect Heating Equipment
EU005 - EU007	Minn. R. 7011.0610	Standards of Performance for Fossil-Fuel-Burning Direct Heating Equipment
EU008 - EU028 and EU031 - EU036	Minn. R. 7011.0715 40 CFR § 52.21 for PM emissions for EU 008, EU 010, and EU 011	Standards of Performance for Post-1969 Industrial Process Equipment EU 008 PM limit is synthetic minor and EU 010 and EU 011 are PSD BACT limits.
EU029	Minn. R. 7011.2300	Standards of Performance for Stationary Internal Combustion Engines
EU030	Minn. R. 7011.0110	Emission Standards for Visible Air Contaminants

3. Technical Information

In addition to the permit, the following additional information is attached to or included as additional sections to the TSD:

- Emission calculations description information from the permit application.
- Additional calculations for insignificant baghouse sources.
- Fact Sheet on baghouse being integral to the process and not pollution control equipment.
- Documentation statement from American Crystal Sugar (ACS) on inoperability of intercampaign boiler (August 6, 1997 letter form ACS).
- Documentation from ACS on baghouse performance capabilities.
- Two pages from October 1995, permit TSD

4. Conclusion

Based on the information provided by the American Crystal Sugar Company, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 02700001-001, and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team:
Brett Ballavance
Cary Hernandez
Dave Vaaler
Aurora Hernandez
Duane Middendorf
(secondary members were:
Tom Holstrom and
Trent Wickman)

Attachment:
CD-01 Forms
Others specified in Section 3