AIR EMISSION PERMIT NO. 13100022-004

IS ISSUED TO

Malt-O-Meal Company

Malt-O-Meal Company - Plant 2 - Northfield
701 West 5th Street
Northfield, Rice County, MN 55057

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	Issue Date	Action Number
Total Facility Operating Permit	01/17/1995	04/11/2000	001
Major Amendment	Agency Re-opening	06/03/2003	002
Administrative Amendment			
Major Amendment	October 15, 2003	11/19/04	003
Total Facility Operating Permit – Re-issuance	October 13, 2004	See below	004

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

Permit Type: Federal; Pt 70/Limits to Avoid NSR
Issue Date: November 29, 2005
Expiration: November 29, 2010
All Title I Conditions do not expire.

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

For Sheryl A. Corrigan
Commissioner
Minnesota Pollution Control Agency

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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:

The Permittee operates a breakfast cereal manufacturing facility. The stationary source currently consists of 14 separate product lines. Many of these lines can produce multiple products. Cereal is made from either wheat, rice, corn, oat, or some combination thereof. The stationary source consists of scalpers, destoners, dryers, sifters, extrusion equipment, puffing equipment, conveyors, packaging machines, various cookers, boilers, intermediate storage equipment, and truck and railcar loading facilities. The pollutants of concern are Particulate Matter, Particulate Matter less than 10 microns, Volatile Organic Compound, and Nitrogen Oxide.

ACTION 004

This permit action is for the re-issuance of the Title V operating permit. In addition to the re-issuance, the following changes were made:

- The initial flex cap provisions, of the original permit, are replaced by pre-cap provisions.
- Due to PM_{10} air dispersion modeling results, the Permittee will also be undertaking some changes to stack heights, stack discharge direction, stack diameters, and operational limits to improve the air dispersion characteristics of the facility.
- There were several miscellaneous changes reflected in the moving or retiring of some equipment.
- Group 016 (extruder venting) and Group 017 (enrobing drums) were also created.
- Additional performance testing of Groups 006 and 010 was required.

There are also some miscellaneous permit language updates.

TABLE A: LIMITS AND OTHER REQUIREMENTS

11/29/05

Facility Name: Malt-O-Meal Co - Plant 2 - Northfield

Permit Number: 13100022 - 004

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
A. FLEXIBLE PERMIT REQUIREMENTS	hdr
This permit establishes limits on the facility to keep it a minor source under New Source Review. The Permittee cannot make any change at the source that would make the source a major source under New Source Review until a permit amendment has been issued. This includes changes that might otherwise qualify as insignificant modifications and minor or moderate amendments.	Title I Condition: Limit to avoid classification as major source or modification under 40 CFR Section 52.21; Minn. R. 7007.3000
Replacement/Addition/Modification of Emission Units: In all cases of replacements of, additions of, or modifications to emission units, the Permittee shall follow the Minnesota amendment rules provided in Minn. R. 7007.1150 - 7007.1500. If the Permittee replaces any existing equipment, adds new equipment, or modifies the existing equipment, such equipment is subject to the total facility emission limits as well as all of the applicable requirements listed in this permit. Prior to making such a change, the Permittee shall apply for and obtain the appropriate permit amendment, as applicable. The Permittee is not required to repeat PM, PM10, NOx, and VOC calculations described in Minn. R. 7007.1200, subp. 2. The following exceptions are replacements of, additions of, or modifications to (i.e., 1. or 2.) an emission unit that do not require a major amendment under Minn. R. 7007.1500:	Title I Condition: Changes authorized under the limit to avoid classification as a major source under 40 CFR 52.21; Minn. R. 7007.3000; Minn. R. 7007.1150 - Minn. R. 7007.1500
Replacements/Addition/Modification of Emission Units Continued: 1) Are within a class as categorically described in Appendix C and able to calculate emission changes according to the procedure specifically provided in this permit. This includes the fuel burning emission units from the Appendix C classes; or, 2) Make changes in VOC additives that are to be accounted for in the VOC 12-month rolling sum. A permit amendment will still be needed regardless of the emissions increase if the change will be subject to a new applicable requirement or requires revisions to the limits or monitoring and recordkeeping in this permit.	Title I Condition: Changes authorized under the limit to avoid classification as a major source under 40 CFR 52.21; Minn. R. 7007.3000; Minn. R. 7007.1150 - Minn. R. 7007.1500
Labeling Requirements: The Permittee shall permanently display on each emission unit the Emission Unit (EU) and on each item of air pollution control equipment, the Control Equipment (CE) number. The identifying number shall be legible from a safe distance.	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21; MInn. R. 7007.3000
Equipment List Inventory: The Permittee shall maintain a written list of all emission units on site except those insignificant activities listed as insignificant activities in Minn. R. 7007.1300, subp 2. The list shall include the type of equipment; identifying number; dates of installation; modification and/or reconstruction; and reference to applicable Standards of Performance for New Stationary Sources (40 CFR pt. 60).	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21; Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 5
Updating the Equipment List Inventory: The list shall be updated to include new, modified, or relocated equipment before making a change.	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21; Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 5
Environmental Review: the Permittee shall not begin construction of any single project or projects that are connected or phased, which will cause a total increase in actual emissions of greater than 99 tons per year for any criteria pollutant, without first getting a permit amendment to authorize the project. Connected and phased have meanings as defined in Minn. R. 4410.0200, subps. 9(b) and 60. The Permittee shall not begin construction of any project which is listed in Minn. R. 4410.4300 or Minn. R. 4410.4400 without first obtaining a permit amendment to authorize the project. Such project(s) may require the completion of an Environmental Assessment Worksheet or an Environmental Impact Statement prior to issuance of the amendment.	Minn. R. 4410.4300; Minn. R. 4410.4400
B. EMISSION LIMITS	hdr

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Malt-O-Meal Co - Plant 2 - Northfield

Permit Number: 13100022 - 004

Total Particulate Matter: less than or equal to 230 tons/year using 12-month rolling sum	Title I Condition: Limit to avoid classification as a major source under 40 CFR Section 52.21; Minn. R. 7007.3000
Particulate Matter < 10 micron: less than or equal to 200 tons/year using 12-month rolling sum	Title I Condition: Limit to avoid classification as a major source under 40 CFR Section 52.21; Minn. R. 7007.3000
Nitrogen Oxides: less than or equal to 230 tons/year using a 12-month rolling sum	Title I Condition: Limit to avoid classification as a major source under 40 CFR Section 52.21; Minn. R. 7007.3000
Volatile Organic Compounds: less than or equal to 150 tons/year using a 12-month rolling sum	Title I Condition: Limit to avoid classification as a major source under 40 CFR Section 52.21; Minn. R. 7007.3000
The facility shall have less than 249 million Btu/hr of combined rated heat input capacity to fossil fuel fired boilers.	Title I Condition: Limit to avoid classification as a major source under 40 CFR Section 52.21; Minn. R. 7007.3000
C. OPERATIONAL REQUIREMENTS	hdr
Operation and Maintenance Plan: Retain at the stationary source an operation and maintenance plan for all product recovery system equipment. An updated Operation and Maintenance Plan shall be developed within 180 days, from the initial Title V permit issuance.	Minn. R. 7007.0800, subp. 14 and Minn. R. 7007.0800, subp. 16(J)
Circumvention: Do not install or use a device or means that conceals or dilutes emissions, which would otherwise violate a federal or state air pollution control rule, without reducing the total amount of pollutant emitted.	Minn. R. 7011.0020
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
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)
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 Conditions listed in Minn. R. 7007.0800, subp. 16.	Minn. R. 7007.0800, subp. 16
Inspections: The Permittee shall comply with the inspection procedures and requirements as found in Minn. R. 7007.0800, subp. 9(A).	Minn. R. 7007.0800, subp. 9(A)
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
Fuel Type: Natural gas only except for EU 137 (emergency generator unit) usage.	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21; Minn. R. 7007.3000
Corrective Action. If any of the following conditions are observed, the Permittee shall take corrective actions, within 24 hours, to eliminate: 1) Excess particulate emissions beyond what would be expected during normal operations for all Appendix C stack/vents (SV's), except Product Recovery System filters identified in GP004 and GP005; 2) Visible emissions from Product Recovery System filters identified in GP004 and GP005 of Appendix C; or, 3) Significant roof dust accumulation which could reasonably be expected to become airborne and create a nuisance.	Title I Condition: To avoid classification as a major source under 40 CFR 52.21; Minn. R. 7007.3000
D. PERFORMANCE TESTING	hdr
Performance Testing: Conduct all performance tests in accordance with Minn. R. ch. 7017 unless otherwise noted in Tables A, B, and/or C.	Minn. R. ch. 7017
Testing of New Units: Testing will be conducted, for new units, installed under the permit, if: 1. The new unit has a higher capacity than any unit already tested in its class; or, 2. The new unit is outside of a class and is not an insignificant activity.	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21; Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Malt-O-Meal Co - Plant 2 - Northfield

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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 Notifications (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: due 105 days after each Performance Test The Notification, Test Plan, and Test Report may be submitted in alternative format as allowed by Minn. R. 7017.2018.	Minn. R. 7017.2030, subp. 1-4 and Minn. R. 7017.2035, subp. 1-2
When a performance test for VOC is conducted, the results should be reported on a propane mass basis or an "as VOC" basis, accounting for the individual constituents of the gas stream.	Minn. R. 7007.0800, subp. 4
E. MONITORING REQUIREMENTS	hdr
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)
Daily Monitoring: Once daily, during daylight hours while in operation, monitor the rooftop and individual stack/vents (SV) within each Appendix C class as follows: 1) All SV's for each Appendix C class, except GP004 and GP005 (Product Recovery System filters), shall be monitored for the presence of excess particulate matter emissions beyond what would be expected under normal operating conditions. 2) All SV's for Product Recovery System filters, identified as GP004 and GP005, shall be monitored for any visible emissions. 3) All rooftop areas shall be monitored for significant dust accumulation which could reasonably be expected to become airborne and pose a nuisance condition. Upon observation of any of the above three conditions, the Permittee shall investigate the process and implement corrective action, within 24 hours, to eliminate the visible emissions, excess particulate emissions, or significant roof dust accumulation.	Title I Condition: To avoid classification as a major source under 40 CFR 52.21; Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 5
Monitoring Equipment Calibration: Annually calibrate all required monitoring equipment.	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)
VOC Material Content Monitoring: Obtain from the supplier for all VOC-containing food additive materials used at the facility, the content of each VOC in each material. The supplier data shall specify the content of each VOC in each material. The VOC content may be expressed in pounds per gallon or as a percent by weight if the density of the material is also indicated. Maintain supplier data for a minimum of five years. If VOC content data is not available from the supplier, VOC content shall be determined by 40 CFR Part 60, Appendix A, Method 24. VOC content shall be determined at the highest temperature experienced by the material in the facility at or after application. This requirement only applies to food additives which are not accounted for through VOC emission factors from testing.	Title I Condition: To avoid classification as a major source under 40 CFR 52.21; Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 4 and 5
F. RECORDKEEPING	hdr
Recordkeeping of daily monitoring: the Permittee shall keep a daily record, that contains, at a minimum, the following information: 1) Printed name of observer; 2) Signature of observer; 3) Date and time of observation; 4a) Are there any visible emissions observed from the product recovery systems or penthouse? ("yes" or "no") 4b) Are there any excess particulate emissions observed from other sacks? ("yes or "no") 4c) Is there any rooftop dust accumulation that could become airborne and pose a nuisance condition? ("yes" or "no"); 5) Stack/Vent ID number for each "yes"; 6) Description of investigation and corrective actions completed for each "yes"; and, 7) Weather conditions (temperature, cloud cover, wind, precipitation).	Title I Condition: To avoid classification as a major source under 40 CFR 52.21; Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 5

Recordkeeping of corrective actions: If any of the following conditions are observed, the Permittee shall take corrective actions, within 24 hours, to eliminate: 1) Excess particulate emissions beyond what would be expected during normal operations for all Appendix C SV's, except Product Recovery System filters identified in GP004 and GP005; 2) Visible emissions from Product Recovery System filters identified in GP004 and GP005 of Appendix C; or, 3) Significant roof dust accumulation which could reasonably be expected to become airborne and create a nuisance. The Permittee shall keep a record, on-site, of the corrective actions taken.	Title I Condition: To avoid classification as a major source under 40 CFR 52.21; Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 5
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 as well as 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: The Permittee shall maintain a record, at the facility, of the 12-month rolling sum of the PM, PM10, NOx, and VOC emissions.	Title I Condition: To avoid classification as a major source under 40 CFR 52.21; Minn. R. 7007.3000
Record and maintain the 12-month rolling sum of the natural gas from purchase records. Keep these records on-site.	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21; Minn. R. 7007.3000
By the last day of each month, record and maintain the sum of the facility's combined rated heat input capacity to fossil fuel fired boilers.	Title I Condition: To avoid classification as a major source under 40 CFR 52.21; Minn. R. 7007.3000
Monthly VOC Material Usage and VOC Usage Recordkeeping: by the 30th day of each month, record the quantity of each VOC-containing food additive material and each VOC used during the previous month. Separate records shall be kept for each material and VOC. This requirement only applies to food additives which are not accounted for through VOC emission factors from testing.	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.2; Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 5
G. REPORTING	hdr
The Permittee shall comply, and upon written request demonstrate modeled compliance, with National Primary and Secondary Ambient Standards Air Quality Standards, 40 CFR pt. 50, and the Minnesota Ambient Air Quality Standards, Minn. R. 7009.0010 to 7009.0080.	40 CFR pt. 50; Minn. Stat. Sec. 116.07, subpds. 4a and 9; Minn. R. 7007.0100, subps. 7A, 7L and 7M; Minn. R. 7007.0800, subps. 1, 2, and 4; Minn. R. 7009.0010-7007.0080
Shutdown Notifications: Notify the Commissioner at least 24 hours in advance of a planned shutdown of any control equipment or process equipment if the shutdown would cause any increase in the emissions of any regulated air pollutant. If the owner or operator does not have advance knowledge of the shutdown, notification shall be made to the Commissioner as soon as possible after the shutdown. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 3. At the time of notification, the owner or operator shall inform the Commissioner of the cause of the shutdown and the estimated duration. The owner or operator shall notify the Commissioner when the shutdown is over.	Minn. R. 7019.1000, subp. 3
Breakdown Notifications: Notify the Commissioner within 24 hours of a breakdown of more than one hour duration of any control equipment or process equipment if the breakdown causes any increase in the emissions of any regulated air pollutant. The 24-hour time period starts when the breakdown was discovered or reasonably should have been discovered by the owner or operator. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 2. At the time of notification or as soon as possible thereafter, the owner or operator shall inform the Commissioner of the cause of the breakdown and the estimated duration. The owner or operator shall notify the Commissioner when the breakdown is over.	Minn. R. 7019.1000, subp. 2
Notification of Deviations Endangering Human Health or the Environment: As soon as possible after discovery, notify the Commissioner or the state duty officer, either orally or by facsimile, of any deviation from permit conditions which could endanger human health or the environment.	Minn. R. 7019.1000, subp. 1
Notification of Deviations Endangering Human Health or the Environment Report: Within 2 working days of discovery, notify the Commissioner in writing of any deviation from permit conditions which could endanger human health or the environment. Include the following information in this written description: 1. the cause of the deviation; 2. the exact dates of the period of the deviation, if the deviation has been corrected; 3. whether or not the deviation has been corrected; 4. the anticipated time by which the deviation is expected to be corrected, if not yet corrected; and 5. steps taken or planned to reduce, eliminate, and prevent reoccurrence of the deviation.	Minn. R. 7019.1000, subp. 1

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Malt-O-Meal Co - Plant 2 - Northfield

Permit Number: 13100022 - 004

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 Fees: due 60 days after receipt of an MPCA bill.	Minn. R. 7002.0005 through Minn. R. 7002.0095
PM10 MAAQS: Any facility modifications necessary to demonstrate modeled compliance with the PM10 MAAQS shall be completed by July 1, 2006. These changes are found in Appendix E. Until such facility modifications are complete, the facility shall not make any facility modifications resulting in an increase greater than 0.1 lb PM10/hr per each modification. After completion of the facility modifications listed in Appendix E, the facility may make facility modifications resulting in emissions greater than 0.1 lb PM10/hr, provided that the modifications are made in accordance with the requirements in this permit.	Minn. R. 7007.0800, subp. 2
PM10 MAAQS Facility Modification Completion Submittal: Within 30 days of completion of the all of the facility modifications necessary to demonstrate modeled compliance with the PM10 MAAQS, the Permittee shall notify the MPCA that the modifications have all been completed.	Minn. R. 7007.0800, subp. 6
PM10 MAAQS Modeling: The facility shall demonstrate modeled compliance with the PM10 MAAQS for any facility modification resulting in the need for a moderate or minor permit amendment. A summary of the modeling results are to be included with the moderate or minor permit amendment application. In addition, the facility shall demonstrate modeled compliance with the PM10 MAAQS for any facility modification resulting in an increase of PM10 emissions by greater than 0.1 lb/hr, but less than the moderate or minor permit amendment thresholds. A summary of the modeling results, of any such changes, are to be included with the annual compliance certification.	Minn. R. 7007.0800, subps. 2 and 6
H. CALCULATIONS	hdr
Emission Factors: The Permittee shall use the emission factors that are found in this permit and its Appendices, or subsequently updated and MPCA approved for emission calculations for those emission units described in Appendix C.	Title I Condition: To avoid classification as a major source under 40 CFR 52.21; Minn. R. 7007.3000
Revision of Emission Factors: If a subsequent performance test results in an emission factor that has a higher emission rate than the current emission factor, the highest test result shall become the new emission factor. The use of the updated emission factor shall commence upon receipt of written MPCA notification that the performance test results were valid.	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21; Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 2
Natural gas emission factors: Pollutant — Natural Gas (lb/million cubic feet) PM — 7.6 PM10 — 7.6 NOx — 100. VOC — 5.5	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21; Minn. R. 7007.3000
Diesel fired reciprocating internal combustion engine emission factors: Pollutant — Diesel (lb/HP-hr) PM — 0.0022 PM10 — 0.0022 NOx — 0.031 VOC — 0.0025	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21; Minn. R. 7007.3000

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Malt-O-Meal Co - Plant 2 - Northfield

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Grain Handling Fugitive Emission Factors: Source PM(lb/ton) PM10(lb/ton) Control Credit FS001 0 0 50% FS002 0.0215 0.00585 75% FS003 0 0 75% FS004 0 0	Title I Condition: To avoid classification as a major source under 40 CFR 52.21; Minn. R. 7007.3000
Calculations - Individual Class and Additives Emissions: By the 30th day of each month, the Permittee shall calculate emissions for the previous month as follows: a. For each individual Appendix C class emission unit, calculate PM, PM10, and VOC emissions: Emissions = Emission factor X unit design capacity X (8760/12) where emission factor = taken from Appendix B or a subsequently MPCA approved factor unit design capacity = rated design capacity of each unit b. For each VOC containing food additive (not already accounted for in Appendix B emission factors), multiply the percent VOC content times the quantity of each food additive used. c. Sum the total class monthly emissions of each pollutant and VOC monthly emissions.	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21; Minn. R. 7007.3000
Calculations - Natural Gas Monthly Emissions: By the 30th day of each month, the Permittee shall calculate emissions for the previous month as follows: d. For natural gas, calculate PM, PM10, NOx,and VOC emissions: Emissions = Natural gas emission factor X monthly natural gas usage where monthly natural gas usage = total natural gas quantity purchased by the facility for the previous month.	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21; Minn. R. 7007.3000
Calculations - Diesel Fired Reciprocating Internal Combustion Engines Monthly Emissions: By the 30th day of each month, the Permittee shall calculate emissions for the previous month as follows: e. For each diesel fired reciprocating internal combustion engine, calculate PM, PM10, NOx,and VOC emissions: Emissions = Diesel fired reciprocating internal combustion engine emission factor X monthly total HP-hrs of operation where monthly total HP-hrs of operation = the sum of hours of operation for each engine on site, during the previous month, times that engine's horsepower (HP) rating. Sum PM, PM10, NOx, and VOC emissions for each engine.	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21; Minn. R. 7007.3000
Calculations - Modifications not already included in previous calculations a - d: By the 30th day of each month, the Permittee shall calculate emissions for the previous month for any units, put into operation, that have not already been included in previous calculations a - d as follow. f. Emissions = (the appropriate AP-42 factors or calculation method used for that modification) X the unit design capacity X (8760/12)	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21; Minn. R. 7007.3000

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Malt-O-Meal Co - Plant 2 - Northfield

Permit Number: 13100022 - 004

Calculations - Grain Handling Fugitive Emissions: By the 30th day of each month, the Permittee shall calculate emissions for the previous month as follows: g. For grain handling fugitive emissions, calculate PM and PM10 emissions: Emissions = Grain handling fugitive emission factor X unit process rate X hours of operation for the previous month where unit process rate = the process rate of each unit in tons/hour	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21; Minn. R. 7007.3000
Calculations: Calculate the total facility monthly emissions of each pollutant by summing: 1) the monthly emissions for the above individual classes and additives (c); 2) natural gas (d); 3) diesel fired reciprocating internal combustion engine(s) (e); 3) insignificant activities listed in Minn. R. 7007.1300, subp. 3 or 4 that have not already been included in (c) or (d); 4) insignificant modifications (f) that have not already been included in (c) or (d); 5) grain handling fugitive emission sources (g); and, 6) minor modifications for which a permit application has been submitted, but no permit amendment yet issued. Calculations will be based on the format included in the minor modification application.	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21; Minn. R. 7007.3000
Calculations - 12-month Rolling Sum: Calculate the 12-month rolling sum emissions for each pollutant by summing the total facility monthly emissions and add it to the total from the previous 11 months.	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21; Minn. R. 7007.3000
If a particular unit that has been removed that was previously included in the calculations as required in this permit, emissions from that particular unit shall not be included in the calculations in the subsequent month to its removal and henceforth.	Title I Condition: To avoid classification as a major source under 40 CFR Section 52.21; Minn. R. 7007.3000

TABLE A: LIMITS AND OTHER REQUIREMENTS

11/29/05

Facility Name: Malt-O-Meal Co - Plant 2 - Northfield

Permit Number: 13100022 - 004

Subject Item: **GP 001 Natural Gas Boilers (Pre Dc)**

Associated Items: EU 001 Boiler No. 1

EU 002 Boiler No. 2

EU 003 Boiler No. 3

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.6 lbs/million Btu heat input (This is met through the total capacity of the equipment burning natural gas. For EU 001 and EU 002, the total potential to emit is 0.188 lb/hr or 0.0071 lb/MMBtu heat input. For EU 003, the total potential to emit is 0.383 lb/hr or 0.0072 lb/MMBtu heat input.)	Minn. R. 7011.0510, subp. 1
Opacity: less than or equal to 20 percent except for one six-minute period per hour of not more than 60 percent opacity.	Minn. R. 7011.0510, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

11/29/05

Facility Name: Malt-O-Meal Co - Plant 2 - Northfield

Permit Number: 13100022 - 004

Subject Item: **GP 002 Natural Gas Boilers (Dc)**

Associated Items: EU 004 Boiler No. 4

What to do	Why to do it
Recordkeeping: Record and maintain records of the amounts of each fuel combusted on a monthly basis. These recordes may consist of purchase records or receipts.	40 CFR Section 60.13(i) and February 20, 1992, EPA memorandum to meet the requirements of 40 CFR 60.48c(g) and (i)

TABLE A: LIMITS AND OTHER REQUIREMENTS

11/29/05

Facility Name: Malt-O-Meal Co - Plant 2 - Northfield

Permit Number: 13100022 - 004

Subject Item: **GP 003 Grain Handling**

Associated Items: FS 001 Old Receiving Pad - Truck/Rail Unload

FS 002 Old Feed Loadout

FS 003 New Feed Loadout

FS 004 New Receiving Pad - Truck/Rail Unload

What to do	Why to do it
During the pit unloading of the FS 001 commodities operation, the overhead door shall remain closed, at all times.	Minn. R. 7007.0800, subp. 2
During the FS 003 feed loading operation, the overhead door shall remain closed, at all times.	Minn. R. 7007.0800, subp. 2
During calendar days of FS 002 operation, the number of hours per day of operation shall not exceed 6 hours per day.	Minn. R. 7007.0800, subp. 2
On calendar days of FS 002 operation, the Permittee shall log the hours of operation of the feed loading, on a daily basis. Records are to be maintained on-site. This system shall be considered to be in operation when the feed is discharging from the loading auger to a truck.	Minn. R. 7007.0800, subp. 2
Clean up commodities spilled on facility property, as required, to minimize fugitive emissions to a level consistent with RACT	Minn. R. 7011.1005, subp. 1(A)
Maintain air pollution control equipment in proper operating condition and utilize the air pollution control systems as designed.	Minn. R. 7011.1005, subp. 1(B)
Opacity: less than or equal to 5 percent for fugitive emissions from grain unloading.	Minn. R. 7011.1005, subp. 3 (A)
Opacity: less than or equal to 10 percent for fugitive emissions from grain loading.	Minn. R. 7011.1005, subp. 3(B)

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Malt-O-Meal Co - Plant 2 - Northfield

Permit Number: 13100022 - 004

Subject Item: **GP 004 Product Recovery Systems**

Associated Items:

EU 006 Feed Bin Cyclone Aspiration Filter

EU 007 Points Cont to Feed Bin Cyclone Aspiration Filter

EU 011 Old Mill Room Aspiration Filter

EU 012 Points Cont to Old Mill Room Aspiration Filter

EU 030 Puffed Wheat/Rice Vit Dry Filter

EU 031 Points Cont to Puff W/R Vit Dry Filter

EU 036 Rice Retro Dryer Infeed Aspiration Filter

EU 037 Points Contributing to Rice Retro Asp Filter

EU 038 #5 Product Collection/Aspiration Filter

EU 039 #5 Filter - Points Contributing to Filter

EU 042 Phase 1 Hoffman Aspiration Filter System

EU 043 Points Contributing to Phase 1 Hoffman System Filter

EU 044 Puffed Wheat Destoner Filter

EU 045 Points Contributing to Puffed Wheat Destoner Filter

EU 046 Points Contributing to Phase 6 - Extruder #3 Half Product/Dryer Cooler Filter

EU 048 Phase 6 - Sugar Coat #3 System Product Collection Filter

EU 049 Phase 6 - Points Contributing to #3 Sugar Coat Filter

EU 054 Phase 7 - Product Collection/Aspiration Filter

EU 055 Phase 7 - Units Contributing to Filter

EU 061 Phase 8 - Product Collection/Aspiration Filter

EU 062 Phase 8 - Points Contributing to Filter

EU 063 Phase 9 - Mill Room Aspiration

EU 064 Phase 9 - Points Contributing to Mill Room Aspiration

EU 068 Phase 9 - Product Collection/Aspiration Filter

EU 069 Phase 9 - Points Contributing to Filter

EU 071 Phase 10 - Puffer Toaster Cooler Area Aspiration

EU 072 Phase 10 - Points Contributing to Cooler Area Filter

EU 077 Phase 10 - Product Collection/Aspiration Filter

EU 078 Phase 10 - Points Contributing to Filter

EU 079 Phase 11 - Ext. 1/2 Prod Dryer/Cooler Filter

EU 084 Phase 11 - Product Collection/Aspiration Filter

EU 085 Phase 11 - Points Contributing to Filter

EU 091 Phase 12 - Product Collection/Aspiration Filter

EU 092 Phase 12 - Points Contributing to Filter

EU 095 Phase 13 General Aspiration Filter

EU 096 Phase 14 Predryer Filter #1

EU 097 Phase 14 Predryer Filter #2

EU 098 Phase 14 Predryer Filter #3

EU 100 Phase 14 Puffer/Toaster Cooler Filter

TABLE A: LIMITS AND OTHER REQUIREMENTS

11/29/05

Facility Name: Malt-O-Meal Co - Plant 2 - Northfield

Permit Number: 13100022 - 004

Associated Items:

EU 101 Phase 14 Sugar Coat Dryer #1 Filter

EU 102 Phase 14 Sugar Coat Dryer #2 Filter

EU 103 Phase 14 General Aspiration Filter

EU 104 Phase 14 Blower Filter #1

EU 106 Points Contributing to Phase 13 General Aspiration Filter

EU 107 Points Contributing to Phase 14 Predryer Filter #1

EU 108 Points Contributing to Phase 14 Predryer Filter #2

EU 109 Points Contributing to Phase 14 Predryer Filter #3

EU 110 Points Contributing to Phase 14 Puffer/Toaster Cooler Filter

EU 111 Points Contributing to Phase 14 Sugar Coat Dryer #1 Filter

EU 112 Points Contributing to Phase 14 Sugar Coat Dryer #2 Filter

EU 113 Points Contributing to Phase 14 General Aspiration Filter

EU 114 Points Contributing to Phase 14 Blower Filter #1

EU 115 Phase 14 Blower Filter #2

EU 116 Points Contributing to Phase 14 Blower Filter #2

EU 117 Phase 14 Blower Filter #3

EU 118 Points Contributing to Phase 14 Blower Filter #3

EU 119 Phase 14 Flour/Corn Meal Delivery Filter

EU 120 Points Contributing to Phase 14 Flour/Corn Meal Delivery Filter

EU 121 Phase 11 Sugar Receiving Filter

EU 122 Points Contributing to Phase 11 Sugar Receiving Filter

EU 123 Phase 7 Hoffman Filter

EU 124 Points Contributing to Phase 7 Hoffman Filter

EU 125 Phase 6 - Extruder #3 Half Product Dryer/Cooler Filter

What to do	Why to do it
Operation and Maintenance of Fabric Filter: the Permittee shall operate and maintain the product recovery systems according to the control equipment manufacturer's specifications.	Title I Condition: To avoid classification as a major source under 40 CFR 52.21; Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 14

TABLE A: LIMITS AND OTHER REQUIREMENTS

11/29/05

Facility Name: Malt-O-Meal Co - Plant 2 - Northfield

Permit Number: 13100022 - 004

Subject Item: **GP 005 Product Recovery Systems (Penthouses)**

Associated Items: EU 014 P/T #2 Dryer Infeed Aspiration Filter

EU 015 Points Contributing to P/T #2 Infeed Aspiration

EU 032 P-4 Conveying Aspiration

EU 033 Points Contributing to P-4 Conveying Aspiration

EU 040 Hoffman Aspiration Filter System #2

EU 041 Points Contributing to Hoffman System #2 Filter

What to do	Why to do it
Operation and Maintenance of Fabric Filter: the Permittee shall operate and maintain the product recovery systems filters according to the control equipment manufacturer's specifications.	Title I Condition: To avoid classification as a major source under 40 CFR 52.21; Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 14

TABLE A: LIMITS AND OTHER REQUIREMENTS

11/29/05

Facility Name: Malt-O-Meal Co - Plant 2 - Northfield

Permit Number: 13100022 - 004

Subject Item: **GP 006 1/2 Product Dryers/Coolers**

Associated Items: EU 008 Extruder #1 1/2 Product Dryer/Cooler

EU 009 Extruder #2 1/2 Product Dryer/Cooler

EU 010 Bran 1/2 Product Dryer

EU 056 Phase 8 - Extruder 1/2 Product Dryer/Cooler

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.30 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	Minn. R. 7011.0715, subp. 1(B)

TABLE A: LIMITS AND OTHER REQUIREMENTS

11/29/05

Facility Name: Malt-O-Meal Co - Plant 2 - Northfield

Permit Number: 13100022 - 004

Subject Item: **GP 007 Gun Systems (Single Cyclone) - Grain and Similar**

Associated Items: SV 016 #1 Preh Gun & Cyclone

SV 017 #2 Preh Gun & Cyclone

SV 019 #5 Preh Gun & Cyclone

SV 031 #7 Preh Gun & Cyclone

SV 047 #10 Preh Gun & Cyclone

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.30 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)
Opacity: less than or equal to 20 percent except for one six-minute period per hour of not more than 60 percent opacity.	Minn. R. 7011.0610, subp. 1(A)
The maximum production of grain products (cooked and uncooked) shall not exceed 20,000 tons per year on a 12-month rolling sum basis. This weight reflects only the weight of the material going through the puffing gun. It does not include product weight added after gun puffing.	Title I Condition: Limit to avoid classification as amajor source or modification under 40 CFR Section 52.21; Minn. R. 7007.3000
Monthly Recordkeeping - Grain Products. By the 30th day of each month, the Permittee shall calculate and record the following: 1) The total weight of the quantity of grain products (cooked and uncooked) produced in all single cyclone puffing guns combined during the previous month. 2) The 12-month rolling sum of grain products (cooked and uncooked) produced in all single cyclone puffing guns combined for the previous 12-month by summing the monthly grain products weight data for the previous 12 months.	Title I Condition: Limit to avoid classification as amajor source or modification under 40 CFR Section 52.21; Minn. R. 7007.3000
Only the following, listed guns, within this GP 007, shall be allowed to process grain or similar products: #1 Puffing Gun/Cyclone/Preheater (EU 017, EU 018, and EU 019) #2 Puffing Gun/Cyclone/Preheater (EU 020, EU 021, and EU 022) #5 Puffing Gun/Cyclone/Preheater (EU 026, EU 027, and EU 028) #7 Puffing Gun/Cyclone/Preheater (EU 050, EU 051, and EU 052) #10 Puffing Gun/Cyclone/Preheater (EU 073, EU 074, and EU 075)	Minn. R. 7007.0800, subp. 2
Performance Test: due 1,095 days after Permit Issuance (-004) to measure PM10 and PM emissions. This one test can be selected from any emission unit within GP 007.	Minn. R. 7017.2020, subp. 1
Performance Test Notifications and Submittals; Performance Test Notification (written): due 30 days before each Performance Test Performance Test Plan: due 30 days before each Performance Test Performance Test Pre-Test Meeting: due 7 day before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy or CD: due 105 day after each Performance Test. The Notification, Test Plan, and Test Report may be submitted in alternative format as allowed by Minn. R. 7017.2018.	Minn. R. 7017.2030, subp. 1-4; Minn. R. 7017.2018 and Minn. R. 7017.2035, subp. 1-2

TABLE A: LIMITS AND OTHER REQUIREMENTS

11/29/05

Facility Name: Malt-O-Meal Co - Plant 2 - Northfield

Permit Number: 13100022 - 004

Subject Item: **GP 008 Gun Systems (Single Cyclone) - Dough and Similar**

Associated Items: SV 016 #1 Preh Gun & Cyclone

SV 017 #2 Preh Gun & Cyclone

SV 019 #5 Preh Gun & Cyclone

SV 031 #7 Preh Gun & Cyclone

SV 035 #8 Preh Gun Cyclone

SV 047 #10 Preh Gun & Cyclone

SV 051 #11 Preh Gun & Cyclone

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.30 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)
Opacity: less than or equal to 20 percent except for one six-minute period per hour of not more than 60 percent opacity	Minn. R. 7011.0610, subp. 1(A)

TABLE A: LIMITS AND OTHER REQUIREMENTS

11/29/05

Facility Name: Malt-O-Meal Co - Plant 2 - Northfield

Permit Number: 13100022 - 004

Subject Item: GP 009 Gun Systems (Double Cyclone)

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.30 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)
Opacity: less than or equal to 20 percent except for one six-minute period per hour of not more than 60 percent opacity	Minn. R. 7011.0610, subp. 1(A)

TABLE A: LIMITS AND OTHER REQUIREMENTS

11/29/05

Facility Name: Malt-O-Meal Co - Plant 2 - Northfield

Permit Number: 13100022 - 004

Subject Item: **GP 010 Puffer Toaster Dryer/Coolers- Non-rotary**

Associated Items: EU 013 Puffer/Toaster #1

EU 016 Puffer/Toaster #2

EU 065 Phase 9 - Puffer/Toaster Dryer

EU 066 Phase 9 - Puffer/Toaster Cooler

EU 070 Phase 10 - Puffer/Toaster Dryer

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.30 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)
Opacity: less than or equal to 20 percent except for one six-minute period per hour of not more than 60 percent opacity	Minn. R. 7011.0610, subp. 1(A)
Performance Test: due 1,095 days after Permit Issuance (-004) to measure PM10 and PM emissions. This one test can be selected from any emission unit within GP 010.	Minn. R. 7017.2020, subp. 1
Performance Test Notifications and Submittals; Performance Test Notification (written): due 30 days before each Performance Test Performance Test Plan: due 30 days before each Performance Test Performance Test Pre-Test Meeting: due 7 day before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy or CD: due 105 day after each Performance Test. The Notification, Test Plan, and Test Report may be submitted in alternative format as allowed by Minn. R. 7017.2018.	Minn. R. 7017.2030, subp. 1-4; Minn. R. 7017.2018 and Minn. R. 7017.2035, subp. 1-2

TABLE A: LIMITS AND OTHER REQUIREMENTS

11/29/05

Facility Name: Malt-O-Meal Co - Plant 2 - Northfield

Permit Number: 13100022 - 004

Subject Item: **GP 011 Puffer Toaster Dryer/Coolers - Rotary**

Associated Items: EU 099 Phase 14 Rotary/Toaster

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.30 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)
Opacity: less than or equal to 20 percent except for one six-minute period per hour of not more than 60 percent opacity	Minn. R. 7011.0610, subp. 1(A)

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Malt-O-Meal Co - Plant 2 - Northfield

Permit Number: 13100022 - 004

Subject Item: **GP 012 Sugar Coat Coolers**

Associated Items: EU 029 Sugar Coat Cooler #2

EU 047 Phase 6 - Sugar Coat #3 Cereal Cooler

EU 053 Phase 7 - Sugar Coat Cereal Cooler

EU 060 Phase 8 - Sugar Coat Cereal Cooler

EU 067 Phase 9 - Sugar Coat Cooler

EU 076 Phase 10 - Sugar Coat Cooler

EU 083 Phase 11 - Sugar Coat Cooler

EU 090 Phase 12 - Sugar Coat Cooler

EU 138 Sugar Coat Cooler #1

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.30 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	Minn. R. 7011.0715, subp. 1(B)

TABLE A: LIMITS AND OTHER REQUIREMENTS

11/29/05

Facility Name: Malt-O-Meal Co - Plant 2 - Northfield

Permit Number: 13100022 - 004

Subject Item: **GP 013 Mill Room Dryers**

Associated Items: EU 132 #3 Mill Room Dryer

EU 133 Phase 9 - Mill Room Dryer

EU 134 Phase 10 - #10 Mill Room Dryer

EU 135 Phase 4 - Rice Retro Dryer

EU 136 Phase 10 - #10 Retro Dryer

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.30 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)
Opacity: less than or equal to 20 percent except for one six-minute period per hour of not more than 60 percent opacity	Minn. R. 7011.0610, subp. 1(A)

TABLE A: LIMITS AND OTHER REQUIREMENTS

11/29/05

Facility Name: Malt-O-Meal Co - Plant 2 - Northfield

Permit Number: 13100022 - 004

Subject Item: **GP 014 Baked Product Ovens**

Associated Items: EU 093 Phase 13 - #13 Baked Product Oven

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.30 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)
Opacity: less than or equal to 20 percent except for one six-minute period per hour of not more than 60 percent opacity	Minn. R. 7011.0610, subp. 1(A)

TABLE A: LIMITS AND OTHER REQUIREMENTS

11/29/05

Facility Name: Malt-O-Meal Co - Plant 2 - Northfield

Permit Number: 13100022 - 004

Subject Item: **GP 015 Cook Room & Sugar Coat Kettles - Common Sugar and Kettle Venting**

Associated Items: EU 126 Sugar Coat #2 Kettle

EU 127 Cook Room #1 & #2 Kettles

EU 129 Sugar Coat #8 Kettle

EU 130 Sugar Coat #10 Kettle

EU 131 Cook Room #10 Kettle

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.30 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	Minn. R. 7011.0715, subp. 1(B)

TABLE A: LIMITS AND OTHER REQUIREMENTS

11/29/05

Facility Name: Malt-O-Meal Co - Plant 2 - Northfield

Permit Number: 13100022 - 004

Subject Item: **GP 016 Extruder Venting**

Associated Items: EU 086 Phase 12 - Extruder Venting

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.30 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	Minn. R. 7011.0715, subp. 1(B)

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Malt-O-Meal Co - Plant 2 - Northfield

Permit Number: 13100022 - 004

Subject Item: **GP 017 VOC - Additives**

Associated Items: EU 139 Enrobing Drum Prior to Sugar Coat Cooler #2

EU 140 Enrobing Drum Prior to Sugar Coat #3 Cereal Cooler

EU 141 Enrobing Drum Prior to Phase 7 Sugar Coat Cooler

EU 142 Enrobing Drum Prior to Phase Sugar Coat Cooler

EU 143 Enrobing Drum Prior to Phase 9 Sugar Coat Cooler

EU 144 Enrobing Drum Prior to Phase 10 Sugar Coat Cooler

EU 145 Enrobing Drum Prior to Phase 11 Sugar Coat Cooler

EU 146 Enrobing Drum Prior to Phase 12 Sugar Coat Cooler

EU 147 Enrobing Drum Prior to Sugar Coat Cooler #1

EU 148 Enrobing Unit for Phase 13 Sugar Coat (future)

EU 149 Enrobing Drum After Sugar Coat Cooler #2

EU 150 Enrobing Drum After Sugar Coat #3 Cereal Cooler (future)

EU 151 Enrobing Drum After Phase 7 Sugar Coat Cooler (future)

EU 152 Enrobing Drum After Phase 8 Sugar Coat Cooler (future)

EU 153 Enrobing Drum After Phase 9 Sugar Coat Cooler

EU 154 Enrobing Drum After Phase 11 Sugar Coat Cooler (future)

EU 155 Enrobing Drum After Phase 11 Sugar Coat Cooler

EU 156 Enrobing Drum After Phase 12 Sugar Coat Cooler (future)

EU 157 Enrobing Drum After Sugar Coat Cooler #1 (future)

EU 158 Enrobing in Phase 14 Sugar Coat Dryer

EU 159 Enrobing after Phase 14 Sugar Coat Dryer #1

What to do	Why to do it
The Permittee is pre-authorized to make the following changes: 1) Move or modify GP 017 listed emission units; 2) Replace listed emission units with ones similar to those listed in GP 017; or, 3) Add the following pre-authorized emission units (EU 148, EU 150, EU 151, EU 152, EU 154, EU 156, and EU 157). Additional requirements pertaining to GP 017 are found in the Total Facility Requirements.	Title I Condition: Limit to avoid classification as a major source under 40 CFR Section 52.21; Minn. R. 7007.3000

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Malt-O-Meal Co - Plant 2 - Northfield

Permit Number: 13100022 - 004

Subject Item: **EU 137 Emergency Generator Units (portable)**

Associated Items: SV 086 Emergency Generator Units (portable)

What to do	Why to do it
The Permittee is authorized to bring on-site emergency reciprocating internal combustion engine(s), provided that each engine meets the requirements set forth in this permit.	Minn. R. 7007.0800, subp. 2
The total operation of the emergency generator units shall be less than or equal to 425,000 HP-hrs per 12-month rolling sum.	Minn. R. 7007.0800, subp. 2
Opacity: less than or equal to 20 percent 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
No single reciprocating internal combustion engine shall have a site-rating of greater than 500 horsepower.	Minn. R. 7007.0800, subp. 2
Hours of Operation: The Permittee shall maintain documentation on site that the unit(s) is an emergency diesel generator by design that qualifies under the U.S. EPA memorandum entitled "Calculating Potential to Emit (PTE) for Emergency Generators" dated September 6, 1995. The sum total from of all such units shall be limited to 500 hours per year.	Minn. R. 7007.0800, subps. 4 & 5
Recordkeeping: The Permittee shall maintain the following documentation, for each event, when an engine(s) was brought on site: 1) the date(s) that each engine was operated; 2) the rating of each engine brought (in horsepower (HP)); and, 3) the hours that each engine was operated (hours). These records are to be maintained on site.	Minn. R. 7007.0800, subp. 2

TABLE B: SUBMITTALS

11/29/05

Facility Name: Malt-O-Meal Co - Plant 2 - Northfield

Permit Number: 13100022 - 004

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

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

Send any application for a permit or permit amendment to:

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

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

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

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

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

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

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

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

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS

11/29/05

Facility Name: Malt-O-Meal Co - Plant 2 - Northfield

Permit Number: 13100022 - 004

What to send	When to send	Portion of Facility Affected
Application for Permit Reissuance	due 180 days before expiration of Existing Permit	Total Facility

TABLE B: RECURRENT SUBMITTALS

11/29/05

Facility Name: Malt-O-Meal Co - Plant 2 - Northfield

Permit Number: 13100022 - 004

What to send	When to send	Portion of Facility Affected
Semiannual Deviations Report	due 30 days after end of each calendar half-year starting 04/11/2000 . 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.	Total Facility
Annual Report	due 30 days after end of each calendar year following Permit Issuance. The Permittee shall submit an annual report by January 30th that describes the changes (i.e., insignificant activities) made at the facility during the previous calendar year using the lastest MPCA application forms. The report shall include the emission unit, stack/vent, group, and control equipment data for any new or replaced units or control devices, using the appropriate MPCA forms (only for the newer/changed units). The annual report shall document the PM, PM10, NOx, and VOC 12-month rolling sum calculations for the previous calendar year (Jan. 1 - Dec. 31). The report shall be submitted with the annual Compliance Certification listed in Table B. As part of the Annual Report, the Permittee shall verify and certify that the facility has maintained minor source status for New Source Review.	Total Facility
Compliance Certification	due 31 days after end of each calendar year starting 04/11/2000 (for the previous calendar year). Submit the certification to the Commissioner on a form approved by the Commissioner. This report covers all deviations experienced during the calendar year.	Total Facility
Emissions Inventory Report	due 91 days after end of each calendar year starting 04/11/2000 (April 1). To be submitted on a form approved by the Commissioner.	Total Facility

APPENDIX MATERIAL
Facility Name:Malt-O-Meal Co - Plant 2 - Northfield
Permit Number: 13100022-004

Appendix A: Emission Unit and Stack Vent Numbers

PROCESS IDENTIFICATION

Stack/Vent (SV) ID #	Emission Unit's (EU) ID #	Description
1	1	Boiler #1
2	2	Boiler #2
3	3	Boiler #3
4	4	Boiler #4
		(EU 5 and SV 5 retired - unit never built)
Fug	1	Old Receiving Pad - Pit Unload
Fug	2	Old Feed Loadout
Fug	3	New Feed Loadout
6	6,7	Feed bin cyclone aspiration
11	11,12	Old Mill Room Asp. Filter
21	30,31	Puffed W/R Vit Dry Filter
25	32,33	P-4 Conveying Aspiration
23	36,37	Rice Retro Dryer Infeed Asp. Filter
24	38,39	#5 Product Collect./Asp. Filter
25	14,15	P/T #2 Dryer Infeed Asp Filter*
25	40,41	Hoffman Asp. Filter System #2
26	42,43	Hoffman Asp. Filter System #1
27	44,45	Puffed Wheat Destoner
30	48,49	Phase 6-SC #3 Product Collect. Filter
33	54,55	Phase 7 - Product Collect./Asp. Filter
37	61,62	Phase 8 - Product Collect./Asp. Filter
38	63,64	Phase 9 - Mill Room Aspiration
43	68,69	Phase 9 - Product Collect./Asp. Filter
46	71,72	Phase 10 - P/T Cooler Area Asp.
49	77,78	Phase 10 - Product Collect./Asp. Filter
50	79	Phase 11 - Ext. 1/2 Prod. Dry/Cooler Filter
53	84,85	Phase 11 - Product Collect./Asp. Filter
57	91,92	Phase 12 - Product Collect./Asp. Filter
28	125, 46	Phase 6 - Ext. #3 1/2 Prod Dry/Cooler Filter
62	96,107	Phase 14 - Predryer #1 Filter
63	97,108	Phase 14 - Predryer #2 Filter

SV	EU's	Description
64	98,109	Phase 14 - Predryer #3 Filter
66	100, 110	Phase 14 - Puffer/Toaster Cooler Filter
67	101, 111	Phase 14 - Sugar Coat Dryer #1 Filter
68	102, 112	Phase 14 - Sugar Coat Dryer #2 Filter
69	103, 113	Phase 14 - General Aspiration Filter
70	104, 114, 115, 116, 117, 118	Phase 14 - Blowers Filter
72	119, 120	Phase 14 - Flour/Corn Meal Delivery Filter
73	121,122	Phase 11 Sugar Receiving Filter
74	123,124	Phase 7 Hoffman filter
61	95, 106	Phase 13 general aspiration
		TOTAL FILTERS
7,8	8	Ext. #1 1/2 Product Dryer/Cooler
9	9	Extruder #2 1/2 Prod. Dry/Cooler
10	10	Bran 1/2 Product Dryer
34	56	Phase 8 - Ext. 1/2 Prod. Dry/Cool
54	86	Phase 12 – Extruder Venting
		TOTAL ALL HALF PROD DRYERS
16	17,18,19	#1 Puffing Gun, Cyclone & Preheater – whole grain & dough
17	20,21,22	Gun #2 Cyclone & Preheater - whole grain & dough
19	26,27,28	#5 Puffing Gun/Cyclone/Preheater – whole grain & dough
31	50,51,52	#7 Puffing Gun/Cyclone/Preheater – whole grain & dough
35	57,58,59	#8 Puffing Gun/Cyclone/Preheater – dough
47	73,74,75	#10 Puffing Gun/Cyclone/Preheater – whole grain & dough
51	80,81,82	#11 Puffing Gun/Cyclone/Preheater - dough
		TOTAL ALL GUNS
12,13	13	Puffer/Toaster #1
14,15	16	Puffer/Toaster #2
39,40	65	Phase 9 Puffer/Toaster Dryer
41	66	Phase 9 Puffer/Toaster Cooler
44,45	70	Puffer/Toaster #10 Dryer
		TOTAL NON-ROTARY PUFFER TOASTERS
65	99	Rotary puffer/toaster dryer
		TOTAL ROTARY P/T
87	138	Sugar Coat Cooler #1
20	29	Sugar Coat Cooler #2
29	47	Sugar Coat #3 Cereal Cooler
32	53	Phase 7 Sugar Coat Cooler
36	60	Phase 8 Sugar Coat Cooler
42	67	Phase 9 Sugar Coat Cooler
48	76	Phase 10 Sugar Coat Cooler
52	83	Phase 11 Sugar Coat Cooler
56	90	Phase 12 Sugar Coat Cooler

SV	EU's	Description
		TOTAL SUGAR COAT COOLERS
58,59	93	Phase 13 Baked Product Oven process emissions
58,59	93	Phase 13 Oven natural gas emissions
		TOTAL BAKED PRODUCT OVENS
75	126	Sugar Coat #2 Kettle (Combined)
76	127	Cook Room #1 &2 Kettles (Combined)
78	129	Sugar Coat #8 Kettle (Combined)
79	130	Sugar Coat #10 Kettle (Combined)
80	131	Cook Room #10 Kettle (Combined)
IA	IA	Sugar Coat #3 Kettle (Separate)
IA	IA	#12 Sugar Coat Kettles (Separate)
IA	IA	Sugar Coat #7 Kettle (Unique - Separate)
IA	IA	Sugar Coat #9 Kettle (Separate)
IA	IA	Cook Room #9 Kettle & Scrubber (Separate)
IA	IA	Sugar Coat #11 Kettle (Separate)
		TOTAL SUGAR COAT KETTELS
IA	IA	Sugar Coat #2 Concentrator #2
IA	IA	Sugar Coat #3 Concentrator
IA	IA	Sugar coat #7 Concentrator
IA	IA	Sugar Coat #8 Concentrator
IA	IA	Sugar Coat #9 Concentrator
IA	IA	Sugar Coat #10 Concentrator
IA	IA	Sugar Coat #11 Concentrator
IA	IA	Sugar Coat #2 Concentrator #1
IA	IA	#12 Sugar Coat Concentrator
71	105	#14 Sugar Concentrator
		TOTAL SUGAR COAT CONCENTRATORS
81	132	#3 Mill Room Dryer
82	133	Phase 9 - Mill Room Dryer
83	134	Phase 10 - No. 10 Mill Room Dryer
84	135	Phase 4 Rice Retro Dryer
85	136	Phase 10 - No. 10 Retro Dryer
		TOTAL TYPE 1 DRYERS
IA	IA	Phase 4 Rice Retro Cooler
IA	IA	Phase 10 - No. 10 Retro Cooler
		TOTAL RETRO COOLERS
		TOTAL VITAMIN DRYERS
IA	IA	Sugar Coat #1 Dryer
IA	IA	Sugar Coat Dryer #2
IA	IA	Phase 6-Sugar Coat #3 Dryer

IA	IA	Phase 7 - Sugar Coat Dryer
SV	**EU's**	**Description**
IA	IA	Phase 8 - Sugar Coat Dryer
IA	IA	Phase 9 - Sugar Coat Dryer
IA	IA	Phase 10 - Sugar Coat Dryer
IA	IA	Phase 11 - Sugar Coat Dryer
IA	IA	Phase 12 - Sugar Coat Dryer
		TOTAL SUGAR COAT DRYERS
86	137	Diesel Generators - Total
		TOTAL VOC ADDITIVE ENROBING
20	139	Enrobing Drum Prior to Sugar Coat Cooler #2
29	140	Enrobing Drum Prior to Sugar Coat #3 Cereal Cooler
32	141	Enrobing Drum Prior to Phase 7 Sugar Coat Cooler
36	142	Enrobing Drum Prior to Phase 8 Sugar Coat Cooler
42	143	Enrobing Drum Prior to Phase 9 Sugar Coat Cooler
48	144	Enrobing Drum Prior to Phase 10 Sugar Coat Cooler
52	145	Enrobing Drum Prior to Phase 11 Sugar Coat Cooler
56	146	Enrobing Drum Prior to Phase 12 Sugar Coat Cooler
86	147	Enrobing Drum Prior to Sugar Coat Cooler #1
	148	Enrobing Unit for Phase 13 Sugar Coat
	149	Enrobing Drum After Sugar Coat Cooler #2
	150	Enrobing Drum After Sugar Coat Cooler #3 Cereal Cooler
	151	Enrobing Drum After Phase 7 Sugar Coat Cooler
	152	Enrobing Drum After Phase 8 Sugar Coat Cooler
	153	Enrobing Drum After Phase 9 Sugar Coat Cooler
	154	Enrobing Drum After Phase 10 Sugar Coat Cooler
	155	Enrobing Drum After Phase 11 Sugar Coat Cooler
	156	Enrobing Drum After Phase 12 Sugar Coat Cooler
	157	Enrobing Drum After Sugar Coat Cooler #1
	158	Enrobing in Phase 14 Sugar Coat Dryer #1
	159	Enrobing after Phase 14 Sugar Coat Dryer #1
		Misc Natural gas units (AMU's, superheaters, etc) (Insig. Act)

Appendix B: Class Emission Factors

Description	**Group Number or Insignif. Activity** ([4])	**PM Emission Factor**		**PM10 Emission Factor**		**VOC Emission Factor**	
Product Recovery Systems	004	0.005	gr/dscf	0.005	gr/dscf	7.2%	Of PM

Penthouse Product Recovery Systems (1)	005	0.005	gr/dscf	0.005	gr/dscf	7.2%	Of PM
½ Product Dryer/Coolers	006	0.232	lbs/ton product	0.114	lbs/ton product	0.0399	lbs/ton product
Gun Systems (Single Cyclone) – Grain & Similar(2)	007	0.460	lbs/ton product	0.727	lbs/ton product	0.0584	lbs/ton product
Gun Systems (Single Cyclone) – Dough & Similar(2)	008	0.147	lbs/ton product	0.292	lbs/ton product	0.0584	lbs/ton product
Gun Systems (Double Cyclone) (2)	009	0.0709	lbs/ton product	0.0927	lbs/ton product	0.0584	lbs/ton product
Puffer Toaster Dryer/Coolers – Non-rotary(3)	010	0.912	lbs/ton product	0.684	lbs/ton product	0.684	lbs/ton product
Puffer Toaster Dryer/Coolers – Rotary(3)	011	0.0898	lbs/ton product	0.109	lbs/ton product	0.0577	lbs/ton product
Sugar Coat Dryers	IA	0.0185	lbs/ton product	0.0309	lbs/ton product	0.0247	lbs/ton product
Sugar Coat Coolers	012	0.165	lbs/ton product	0.165	lbs/ton product	0.165	lbs/ton product
Mill Room Dryers	013	0.145	lbs/ton product	0.104	lbs/ton product	0.0407	lbs/ton product
Retro and Other Type 1 Dryers	IA	0.0215	lbs/ton product	0.0258	lbs/ton product	0.0399	lbs/ton product
Retro and Other Type 1 Coolers	IA	0.0306	lbs/ton product	0.0327	lbs/ton product	0.0399	lbs/ton product
Baked Product Ovens	014	0.0168	lbs/ton product	0.0189	lbs/ton product	0.0174	lbs/ton product
Vitamin Dryers	IA	0.0294	lbs/ton product	0.0046	lbs/ton product	0.0247	lbs/ton product
Cook Room & Sugar Coat Kettles – Common Sugar and Kettle Venting	015	0.956	lbs/ton sugar	0.956	lbs/ton sugar	0.0382	lbs/ton in kettle less water
Extruder Venting	016	0.232	lbs/ton product	0.114	lbs/ton product	0.0399	lbs/ton product
Cook Room & Sugar Coat Kettles – Separate Sugar and Kettle Venting	IA	0.0382	lbs/ton in kettle less water	0.0382	lbs/ton in kettle less water	0.0382	lbs/ton in kettle less water
Sugar Coat Concentrators	IA	0.0160	lbs/ton product	0.0160	lbs/ton product	0.0160	lbs/ton product

(1) The Penthouse Product limit applies to the exhaust from the penthouse (not into the penthouse).
(2) GP 007, GP 008, and GP 008 include preheater fuel burning emissions.
(3) GP 010, GP 011, and GP 014 includes fuel burning emissions.

(4) These individual emission units are insignificant activities. These units are as described within the Appendix C classes.

Appendix C: Description of Classes

Product Recovery Systems (GP004 & GP005): Filter systems consist of standard baghouse-type fabric filters. The units may use standard straight walled filter socks or pleated cartridge type filters. The units may range from 500 acfm to 20,000 acfm.

Half Product Dryer/Coolers (GP006): Half product dryer/coolers are steam-heated units which remove moisture from extruded products prior to further processing (typically puffing). Product moves through the unit on perforated belts. The product on the belts is not agitated. The emission point includes the dryer itself and the exhaust from the extruders. The process rates may range from 1.35 to 3.25 tons/hour.

Gun Systems (Single Cyclone) – Grain and Similar (GP007): Gun systems consist of a pre-heater, puffing gun, and a cyclone. The pre-heater is a natural gas fired unit. Product moves through the pre-heater on a belt and is somewhat fluidized by the hot air stream. The puffing gun is a cylindrical chamber in which pre-heated product and superheated steam are introduced. When the product is released from the chamber and returns to atmospheric pressure, it puffs giving the product its finished shape. Both the pre-heater and the puffing gun vent through a cyclone that separates the product from the air stream. The gun system has a single exhaust point (the cyclone exhaust). The process rates may range from 1.35 to 2.5 tons per hour. The pre-heaters rates may range from 1.125 to 1.875 million Btu/hour.

In these systems, the materials puffed are grains. They may be uncooked or cooked. The grain may be whole or partial. Whole grain means that the material is essentially an intact grain kernel.

Gun Systems (Single Cyclone) – Dough and Similar (GP008): Gun systems consist of a pre-heater, puffing gun, and a cyclone. The pre-heater is a natural gas fired unit. Product moves through the pre-heater on a belt and is somewhat fluidized by the hot air stream. The puffing gun is a cylindrical chamber in which pre-heated product and superheated steam are introduced. When the product is released from the chamber and returns to atmospheric pressure, it puffs giving the product its finished shape. Both the pre-heater and the puffing gun vent through a cyclone that separates the product from the air stream. The gun system has a single exhaust point (the cyclone exhaust). The process rates may range from 1.35 to 2.5 tons per hour. The pre-heaters rates may range from 1.125 to 1.875 million Btu/hour.

In these systems, the materials puffed are extruded doughs.

Gun Systems – Double Cyclone (GP009): Double cyclone gun systems consist of a pre-heater, puffing gun, and two cyclones. The pre-heater is a natural gas fired unit. Product moves through the pre-heater on a belt and is somewhat fluidized by the hot air stream. The puffing gun is a cylindrical chamber in which preheated product and superheated steam are introduced. When the product is released from the chamber and returns to atmospheric pressure, it puffs

giving the product its finished shape. Both the pre-heater and the puffing gun vent through a series of two cyclones that separate the product from the air stream. The gun system has a single exhaust point (the exhaust from the second cyclone). The process rate may range from 1.5 to 2.5 tons/hour. The pre-heaters rates may range from 1.125 to 1.875 million Btu/hour.

Puffer/Toaster Dryer/Coolers – Non-rotary (GP010): Puffer/toaster dryers are natural gas fired units. Product moves through the dryer on a belt and is somewhat fluidized by the hot air stream. Hot air is recirculating through the dryer through one or more cyclones. A portion of the recirculating air is exhausted to the outside through one or more stacks. Product exits the dryer section of this unit and enters the cooler section of the unit. In the cooler, product is conveyed on a perforated belt through which cool air is passed. The cooler exhaust vents to the outside through either a cyclone or filter system. The process flow rates may range from 1.35 to 2.5 tons/hour.

Puffer/Toaster Dryer/Coolers – Rotary (GP011): Puffer/toaster dryers are natural gas fired units. Product moves through the dryer which is a rotary drum. Hot air is circulated through the dryer and exhausted to the outside through one or more cyclones. Product exits the dryer section of this unit and enters the cooler section of the unit. In the cooler, product is conveyed on a perforated belt through which cool air is passed. The cooler exhaust vents to the outside through either a cyclone or filter system. The process flow rates may range from 1.35 to 2.5 tons/hour.

Sugar Coat Dryers (*): Sugar coat dryers are steam-heated units which remove moisture from the sugar coating which has been applied to the product. Product passes through the dryer on a perforated belt. The product is not agitated on the belt. The process flow rates may range from 1.2 to 3.75 tons/hour.

Sugar Coat Coolers (GP012): The sugar coat cooler is integrated with the sugar coat dryer. Product exits the dryer section of this unit and enters the cooler section of the unit. In the cooler, product is conveyed on a perforated belt through which cool air is passed. The process flow rates may range from 1.2 to 3.75 tons/hour.

Mill Room Dryers (GP013): These dryers are steam-heated units that remove moisture from cooked product prior to milling. Product entering these units contains a high level of moisture. Product passes through the dryer on a perforated belt. The product is not agitated on the belt. The process flow rate may range from 1.5 to 3.0 tons/hour.

Retro and Other Type 1 Dryers (*): These dryers are steam-heated units that remove moisture from cooked, milled product prior to further processing. Product entering these units contains a high level of moisture. Product passes through the dryer on a perforated belt. The product is not agitated on the belt. The process flow rate may range from 1.8 to 3.0 tons/hour. Type 1 dryers are physically located at the same process point as or prior to a retro dryer in a process line (i.e., where the inlet product has a higher moisture content, than a retro dryer).

Retro and Other Type 1 Coolers (*): In the retro coolers, air is passed through the product to cool it. For all units of this type, the product passes through the unit on a belt with no agitation. The process flow rate may range between 1.8 to 3.0 tons/hour. Type 1 coolers are physically located

at the same point as or prior to a retro cooler in a process line (i.e., where the inlet product has a higher moisture content, than a retro cooler).

Baked Product Ovens (GP014): In the baked product oven, natural gas heat is used to bake a product. In the oven, air is passed through the product to cool it. There is no agitation in the oven. The process flow rate may range between 1.3 and 2.2 tons per hour.

Vitamin Dryers (*): Vitamin dryers may be steam or natural gas heated. These dryers remove a small amount of moisture that has been applied to the product with a liquid vitamin mixture. The process flow rate may range between 0.93 to 1.56 tons/hour.

Cook Room & Sugar Coat Kettles – Common Sugar and Kettle Venting (GP015): In the cook room and sugar coat kettle systems, dry commodities (sugar, salt, etc.) are pneumatically delivered to kettles through a cyclone. Kettle moisture exhaust is also vented. The systems are batch systems. In the common venting systems, the cyclone exhaust and kettle exhaust pass through a scrubber that removes any of the remaining commodity from the air. The scrubber water is returned to the kettle so that all of the captured raw material is used. The scrubber is the ultimate exhaust point for the system. Emissions from these systems are primarily from sugar delivery. The process flow rate may range between 0.05 to 1.61 tons sugar/hour, and 0.10 to 2.35 tons less water/hour, all values averaged over 24 hours, for the system.

Extruder Venting (GP 016): The extruder venting shall include the exhaust from the extruders. The extruders cook, condition, and form dough. The process rate may range from 1.0 to 2.75 tons/hour.

Enrobing Drum VOC – Additives (GP 017): VOC additives are food ingredients (flavorings) that have not been accounted for in stack testing done to establish site emission factors. The additives may be introduced before or after the sugar coating step in the process (typically in a rotating drum and/or spray application). The process throughput rate may range from 1.0 to 3.5 tons/hour.

Cook Room & Sugar Coat Kettles – Separate Sugar and Kettle Venting (*): In the cook room and sugar coat kettle systems, dry commodities (sugar, salt, etc.) are pneumatically delivered to kettles through a cyclone or baghouse. That cyclone or baghouse exhaust is vented to another baghouse which may be a product recovery system or may be internally venting. The systems are batch systems. The kettle exhaust is vented separately. The kettle may vent through a scrubber or directly to the atmosphere. If the kettle exhaust vents directly to the atmosphere, the system must vent the kettle exhaust to a baghouse during sugar delivery into the kettle. If the kettle exhaust is vented through a scrubber, the scrubber water is returned to the kettle. These systems are insignificant activities. The process flow rate may range between 0.05 to 1.61 tons sugar/hour, and 0.10 to 2.35 tons less water/hour, all values averaged over 24 hours, for the system.

Sugar Coat Concentrators (*): Sugar concentrators are steam heated units that evaporate water from sugar mixtures. The process flow rate may range between 0.30 to 1.5 tons/hour.

* = Insignificant Activities

Appendix D: Insignificant Activities and Applicable Requirements

1. Minn. R. 7007.1300, subp. 3(G)
Emission from a Laboratory (food product testing for quality control)
Applicable Requirements: Minn. R. 7007.0715, subp. 1

2. Minn. R. 7007.1300, subp. 3(H)
Miscellaneous (one arc welder)
Applicable Requirements: Minn. R. 7007.0610

3. Minn. R. 7007.1300, subp. 3(I)
Process emission from small units:

Retro Coolers
Vitamin Dryers
Sugar Coat Kettles/Cook Room Kettles
Sugar Concentrators
Sugar Coat Dryers
Retro Dryers

Applicable Requirements: Minn. R. 7007.0715, subp. 1

Superheaters, glycol heaters, and other process units with fuel burning emissions and heat input less than 2.27 MMBtu/hr.
Unit and area heaters and air conditioning units with heat input less than 2.27 MMBtu/hr.

#13 cooked wheat dryer
Applicable Requirements: Minn. R. 7007.0610

4. Minn. R. 7007.1300 subp. 4(B)
Office Boilers

Unit and area heaters with heat input greater than 2.27 MMBtu/hr and less than 22.7 MMBtu/hr.

VOCs from packaging inks and cleaning chemicals. These VOC emissions are not included in the cap set by condition #5.

5. Minn. R. 7007.1300, subp. 4(C)(1) and (2)
HAP emissions from printing inks and cleaning chemicals.

Appendix E: Changes for Modeled Air Dispersion

SV ID #	Stack Description	Proposed Changes
SV001	Boiler #1	Change horizontal release to vertical release Increase stack height by 12.5 ft to a final height of 68.83 ft Change in diameter to 3 ft
SV002	Boiler #2	Change horizontal release to vertical release Increase stack height by 12.5 ft to a final height of 68.83 ft Change in diameter to 3 ft
SV003	Boiler #3	Change horizontal release to vertical release Increase stack height by 17.3 ft to a final height of 69.63 ft Change in diameter to 4.7 ft
SV004	Boiler #4	Change horizontal release to vertical release Increase stack height by 16 ft to a final height of 68.33 ft Change in diameter to 4.3 ft
SV011	Old Mill Room Asp	Change horizontal release to vertical release Increase stack height by 10 ft to a final height of 41 ft Change in diameter to 2.8 ft
SV012	Puffer Toaster #1	Increase stack height by 10 ft to a final height of 87 ft Change in diameter to 1.5 ft
SV013	Puffer Toaster #1	Increase stack height by 10 ft to a final height of 93.5 ft
SV014	Puffer Toaster #2 Stack 1	Change horizontal release to vertical release Increase stack height by 10 ft to a final height of 82 ft Change in diameter to 2.0 ft
SV015	Puffer Toaster #2 Stack 2	Change horizontal release to vertical release Increase stack height by 10 ft to a final height of 82 ft Change in diameter to 2.0 ft
SV019	#5 Preh Gun & Cyclone	Increase stack height by 10 ft to a final height of 98.5 ft
SV020	Sugar Coat Cooler #2	Change horizontal release to vertical release
SV025	Penthouse Ventilation	Change horizontal release to vertical release Change diameter to 5.0 ft by 2.5 ft
SV028	Extr #3 ½ Prod Dry/Cool	Change horizontal release to vertical release Increase stack height by 10 ft to a final height of 48.5 ft Change in diameter to 2.7 ft
SV029	Sugar Coat #3 Cereal Cooler	Change horizontal release to vertical release
SV030	#3 Asp Filter	Change horizontal release to vertical release Change in diameter to 1.0 ft by 1.0 ft
SV031	#7 Preh Gun & Cyclone	Increase stack height by 10 ft to a final height of 99.5 ft
SV032	Phase 7 Sugar Coat Cooler	Change horizontal release to vertical release

SV033	#7 Asp Filter	Change horizontal release to vertical release Increase stack height by 12 ft to a final height of 89 ft Change in diameter to 3.2 ft
SV035	#8 Preh Gun & Cyclone	Increase stack height by 10 ft to a final height of 99.5 ft
SV036	Phase 8 Sugar Coat Cooler	Change horizontal release to vertical release
SV037	#8 Asp Filter	Change horizontal release to vertical release Change in diameter to 4.0 ft by 4.0 ft
SV041	Puff/Toaster #9 Cool	Change horizontal release to vertical release Increase stack height by 10 ft to a final height of 90 ft Change in diameter to 2.2 ft
SV042	Phase 9 Sugar Coat Cooler	Change horizontal release to vertical release
SV044	Puff/Toaster #10 Dry Stack 1	Change in location Change horizontal release to vertical release Increase stack height by 15 ft to a final height of 90.5 ft Change in diameter to 2.0 ft
SV045	Puff/Toaster #10 Dry Stack 2	Change in location Change horizontal release to vertical release Increase stack height by 15 ft to a final height of 90.5 ft Change in diameter to 2.0 ft
SV046	Phase 10 Cooler Area Asp	Change in location Change horizontal release to vertical release Increase in stack height of 13.5 ft to a final height of 90 ft Change in diameter to 1.5 ft
SV047	#10 Preh Gun & Cyclone	Change horizontal release to vertical release
SV050	Extruder #11 ½ Prod Dry/Cool	Change horizontal release to vertical release Increase stack height by 7.7 ft to a final height of 97.7 ft Change in diameter to 2.3 ft
SV051	#11 Preh Gun & Cyclone	Increase stack height by 10 ft to a final height of 96.5 ft
SV052	Phase 11 Sugar Coat Cooler	Change horizontal release to vertical release Change in diameter to 2.7 ft by 2.7 ft
SV053	#11 Asp Filter	Change horizontal release to vertical release Change in diameter to 1.8 ft by 1.8 ft
SV057	#12 Asp Filter	Change horizontal release to vertical release
SV075	Sugar Coat #2 Kettle (combined)	Change horizontal release to vertical release Increase stack height by 10 ft to a final height of 80 ft Change in diameter to 0.8 ft

SV076	Cook Room #1&2 Kettles (combined)	Change in location Increase stack height by 10 ft to a final height of 83.5 ft Change in diameter to 1.2 ft
SV078	Sugar Coat #8 Kettle (combined)	Change horizontal release to vertical release Change in diameter to 0.8 ft
SV079	Sugar Coat #10 Kettle (combined)	Change horizontal release to vertical release Change in diameter to 0.7 ft
SV081	#3 Mill Room Dryer	Change in location Change horizontal release to vertical release Increase stack height by 52.5 ft to a final height of 76.5 ft Change in diameter to 2.5 ft

TECHNICAL SUPPORT DOCUMENT
For
DRAFT/PROPOSED AIR EMISSION PERMIT NO. 13100022-004

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

1. General Information

1.1. Applicant and Stationary Source Location:

Owner and Operator Address and Phone Number (list both if different)	Facility Address (SIC Code: 2043)
Malt-O-Meal Company 80 South 8th Street – Suite 2600 Minneapolis, MN 55402-2297	Malt-O-Meal Company 701 West 5th Street Northfield, MN 55057 Contact: Robert Johnston Phone: (507) 645-6681

1.2. Description of the Facility

The Permittee operates a breakfast cereal (ready-to-eat) manufacturing facility. The stationary source currently consists of 14 separate product lines. Many of these lines can produce multiple products. The resultant cereal is either a wheat, rice, corn, oat, or some combination, thereof, product. The stationary source consists of scalpers, destoners, dryers, sifters, extrusion equipment, puffing equipment, conveyors, packaging machines, various cookers, boilers, intermediate storage equipment, and truck and railcar loading facilities.

The pollutants of concern from the processes are PM, PM_{10}, VOCs, and NO_x. The main contributing sources of air pollution are particulate matter from the various emission units on the product lines and the use of natural gas. There are fabric filters on-site, however, they are used to capture fines as a commercial byproduct. The smaller emission points are largely uncontrolled.

1.3. Description of the Permit Action

This permit action is for the re-issuance of the Title V operating permit. In addition to the re-issuance, the following changes were made:

- The initial flex cap provisions, of the original permit, are replaced by pre-cap provisions.
- Due to PM_{10} air dispersion modeling results, the Permittee will also be undertaking some changes to stack heights, stack discharge direction, stack diameters, and operational limits to improve the air dispersion characteristics of the facility.
- There were several miscellaneous changes reflected in the moving or retiring of some equipment.
- Group 016 (extruder venting) and Group 017 (enrobing drums) were also created.
- Additional performance testing of Groups 006 and 010 was required.

Description of All Amendments Issued Since the Issuance of the Last Total Facility Permit

Permit Number and Issuance Date	**Action Authorized**
13100022-001 April 11, 2000	Title V Issuance.
13100022-002 June 3, 2003	This major amendment was a non-mandatory MPCA re-opening of the permit to change the requirements from submittal of a protocol and modeling results, to the submittal of computer dispersion modeling information only. In addition, the information submittal deadline was extended by 120 days, as requested by the Permittee, by the submittal of an administrative amendment application.
13100022-003 November 19, 2004	This major amendment lowered the emission factor for the product recovery filters. Additional equipment groups and sub-groups of equipment and associated emission factors were also incorporated. In addition, the amendment authorized the ability to bring emergency diesel engines on-site to provide backup for electric powered air compressor outages. There were also some miscellaneous permit language updates. It also incorporates a March 5, 2003 minor amendment to operate a rotary puffer/toaster dryer. MPCA approved the minor amendment on July 26, 2003.

1.4. Facility Emissions:

Table 1. Total Facility Potential to Emit Summary

	PM Tpy	PM_{10} tpy	SO_2 Tpy	NO_x tpy	CO tpy	VOC tpy
Calculated Total Facility Potential Emissions After Amendment -003*	158.5	141.60	1.25	142.84	115.87	106.01
Change in Calculated Total Facility Potential Emissions	-11.34	-9.89	0	-0.65	-0.54	-0.02
Calculated Total Facility Potential Emissions After Re-issuance -004*	147.16	141.03	1.25	142.19	115.33	412.21**
Capped Total Facility Emissions	230.	200.		230.		150.
Total Facility Actual Emissions (2003)	100	84	0.2	35	29	56

* Differences between the PTE found in Delta and that found in this document is attributed to insignificant activities. Insignificant activity emissions were not entered into the Delta PTE. For this document and the public notice, the insignificant activity emissions are included.

** These VOC values reflect potential to emit for VOC emissions based on stack testing at process units, and actual VOC emissions from other additives sources.

Table 2. Facility (TF) and Permit Classification

Classification (put x in appropriate box)	**Major/Affected Source**	***Synthetic Minor**	***Minor**
PSD (list pollutant)		PM, PM_{10}, VOC, NO_x, CO	SO_x
NAAR (list pollutant)			
Part 70 Permit Program (list pollutant)	PM_{10}, VOC, NO_x, CO		SO_x, HAP

* 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.

2.0 Regulatory and/or Statutory Basis

New Source Review

The facility is an existing non-major source under New Source Review regulations. No changes affecting New Source Review status are authorized by this permit.

Part 70 Permit Program

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

New Source Performance Standards (NSPS)

EU 004 is subject to the New Source Performance Standard Subpart Dc. There are no other New Source Performance Standards applicable to the operations at this facility.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

The emergency reciprocating internal combustion engines (RICE) will be below the site rating 500 horsepower NESHAP RICE threshold. The only other sources of HAPs are from natural gas combustion. The facility is a non-major HAP source. Thus, no NESHAPs apply**.**

Minnesota State Rules

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

- Minn. R. 7011.0510 Standards of Performance for Existing Indirect Heating Equipment
- Minn. R. 7011.0610 Standards of Performance for Fossil-Fuel-Burning Direct Heating Equipment
- Minn. R. 7011.0715 Standards of Performance for Post-1969 Industrial Process Equipment
- Minn. R. 7011.1005 Standards of Performance for Dry Bulk Agricultural Commodity Facilities

Table 3. Summary Regulatory and/or Statutory Basis of the Emission or Operational Limit

GRP #	Applicable Regulations	**Comments:
GP001	Minn. R. 7011.0510	Standards of Performance for Existing Indirect Heating Equipment
GP002	40 CFR pt. 60 Subp. Dc	Standards of Performance for Small and Industrial Commercial and Institutional Steam Generating Units
GP003	Minn. R. 7011.1005	Standards of Performance for Dry Bulk Agricultural Commodity Facilities
GP004	To avoid classification as	Daily visible emission checks

	a major source under 40 CFR § 52.21	
GP005	To avoid classification as a major source under 40 CFR § 52.21	Daily visible emission checks
GP006	Minn. R. 7011.0715	Standards of Performance for Post 1969 Industrial Process Equipment (all emission units installed post 1969)
GP007	Minn. R. 7011.0610	Standards of Performance for Fossil-Fuel-Burning Direct Heating Equipment
GP008	Minn. R. 7011.0610	Standards of Performance for Fossil-Fuel-Burning Direct Heating Equipment
GP009	Minn. R. 7011.0610	Standards of Performance for Fossil-Fuel-Burning Direct Heating Equipment
GP010	Minn. R. 7011.0610	Standards of Performance for Fossil-Fuel-Burning Direct Heating Equipment
GP011	Minn. R. 7011.0610	Standards of Performance for Fossil-Fuel-Burning Direct Heating Equipment
GP012	Minn. R. 7011.0715	Standards of Performance for Post 1969 Industrial Process Equipment (all emission units installed post 1969)
GP013	Minn. R. 7011.0610	Standards of Performance for Post 1969 Industrial Process Equipment
GP014	Minn. R. 7011.0610	Standards of Performance for Fossil-Fuel-Burning Direct Heating Equipment
GP015	Minn. R. 7011.0715	Standards of Performance for Post 1969 Industrial Process Equipment (all emission units installed post 1969)
GP016	Minn. R. 7011.0715	Standards of Performance for Post 1969 Industrial Process Equipment (all emission units installed post 1969)

3. Technical Information

3.1 Miscellaneous

Performance Testing

It is noted that there is no performance testing frequency plan requirement. The individual limits are, in large, based on the industrial process equipment rule. The performance testing is used to determine the appropriate emission factors. This permit re-issuance will require the performance testing of GP 006 and GP 010. This is part of the continued effort at refining the emission factors that have been developed for this facility.

Community Involvement

Malt-O-Meal has had an extensive history of air emission permit actions. In the most recent years, there have not been any public comments received during any of its public comment periods. Moreover, the overall PM/PM_{10} and VOC emission limits are remaining in place. Hence, it was decided that there was no addition need for community involvement beyond the public notice.

Modeling

As part of an MPCA initiative, a number of Part 70 facilities underwent a preliminary air dispersion screening. Results of this MPCA preliminary screening indicated that the facility would exceed the PM10 MAAQS. As a result of this preliminary screening, the Permittee was required (in Permit #13100022-003) to submit a refined PM_{10} air dispersion modeling analysis. The MPCA verbally indicated that the Permittee was not allowed to make any additional significant changes at the facility for PM_{10} until a refined modeling was complete and any changes required to meet the PM_{10} ambient standard were completed. On June 2, 2005, the air dispersion modeling results were submitted. With certain stack and operational changes, the modeling analysis indicated that the Permittee's operation at maximum permitted rates do not exceed the MAAQS standard for PM_{10}.

Within the permit, the Permittee is allowed until July 1, 2006, to complete the necessary physical and operational changes proposed in the modeling analysis. In addition, the Permittee is not allowed to make any PM_{10} increases of greater than 0.1 lbs/hr until the changes are complete. The basis for the 0.1 lb/hr is found in Title V modeling requirements in the MPCA Air Dispersion Modeling Guidance for Minnesota Title V Modeling Requirements and Federal Prevention of Significant Deterioration (PSD) Requirements, Version 2.2: October 20, 2004. This guidance indicates that individual stacks/vents/processes that have a maximum allowable emission rate less than 0.1 lb/hr can be ignored. In addition, the facility-wide modeled emissions contribute to slightly less than 90% of the PM_{10} MAAQS.

The changes involve increasing some stack heights, changing the direction of some stacks from horizontal to vertical, changing some stack diameters, and accepting some operational limits. The operational limits involve having closed doors during the loading and unloading of commodities (GP 003), taking a 6 hour operational limit per day (FS 002), and limiting use of grain processing (GP 007). All of the proposed changes are detailed in the Permittee's "Title V Air Dispersion Modeling Analysis."

Pre-cap

This permit action turns this permit from a "flex" cap to a "pre-cap" permit. The initial flex cap permit allowed for the pre-authorization of new emission units in a manner which could have been in conflict with the Minnesota amendment rules (lb/hr increase). To remedy this situation, the permit was converted into a "pre-cap" permit.

GP 016

A new Group 016 was created in this permit action. This unit was previously included in GP 006. GP 006 includes ½ product extruder dryers. The ½ product extruder dryers include the

dryer venting as well as the venting from the extruder. The emission unit in GP 016 is similar to a ½ product extruder dryer except that it only vents from the extruder. GP 016 does not have a dryer. GP 016 is assigned the same emission factor for GP 006. This is even though the GP 016 does not have the dryer that are found in the GP 006 units. Hence, the GP 016 emission factor is deemed to be conservative.

GP 004 and GP 005

The requirements are on the inherent filters, not the stack/vents. Accordingly, the permit associated items were changed to the emission units from the stack/vents.

GP 009

Group 9 is maintained in the permit. In the permit appendix, it is described as a class and has an emission factor. At this time, this emission unit is not in operation at the facility. Depending on future needs, this emission unit may be utilized, again. Hence, the GP 009 is maintained in the permit.

SV 060/EU 094

In previous permits, this emission unit was assigned for the general VOC additives (i.e., flavorings). This amendment replaces the general VOC additive emission unit with specific enrobing drums that are used to apply the VOC additives.

3.2 Calculations of Potential to Emit

Detailed spreadsheets and supporting calculation information, prepared by the Permittee, are found in Delta. The calculations use the emission factors found in the permit appendix.

3.3 Periodic Monitoring

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

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

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

Table 4 summarizes the periodic monitoring requirements for those emission units for which the monitoring required by the applicable requirement is nonexistent or inadequate.

Table 4. Periodic Monitoring

Emission Unit or Group	Requirement (basis)	Additional Monitoring	Discussion
TF	PM = 230 tpy, on a 12 month rolling basis (limit to avoid NSR)	Calculations and recordkeeping	Emissions are a combination of PTE and actuals. Records generated on a monthly basis.
TF	PM_{10} = 200 tpy, on a 12 month rolling basis (limit to avoid NSR)	Calculations and recordkeeping	Emissions are a combination of PTE and actuals. Records generated on a monthly basis.
TF	NO_x = 230 tpy, on a 12 month rolling basis (limit to avoid NSR)	Calculations and recordkeeping	Emissions are a combination of PTE and actuals. Records generated on a monthly basis.
TF	VOCs = 150 tpy, on a 12 month rolling basis (limit to avoid NSR)	Calculations and recordkeeping	Emissions are a combination of PTE and actuals. Records generated on a monthly basis.
GP 006, 012, 013, 015, 016	PM: $\leq$ 0.30 gr/dscf, each booth Opacity: $\leq$ 20 % (Minn. R. 7011.0715)	Daily monitoring for any VEs or significant rooftop accumulation	.
GP 007, 008, 009, 010, 011, 014	PM: $\leq$ 0.30 gr/dscf, each booth Opacity: $\leq$ 20 % (Minn. R. 7011.0610)	Daily monitoring for any VEs or significant rooftop accumulation	
Indirect Heating Equipment : GP 001	PM: $\leq$ 0.4 lb/MMBtu Opacity: $\leq$ 20 % with exceptions (Minn. R. 7011.0510)	Recordkeeping : Monthly Fuel records	All units use natural gas; therefore, the likelihood of violating either of the emission limits is very small. The Permittee can demonstrate that these units will continue to operate such that emissions are well below the emission limits by only burning natural gas. Since this is a permit condition, the

Emission Unit or Group	Requirement (basis)	Additional Monitoring	Discussion
			semi-annual deviations report will document any deviations from this condition. Design based PTE for each unit, using AP-42, is 0.0072 compared to the rule limit of 0.4 lb/MMBtu.
GP 002	Record quantity of natural gas combusted (40 CFR 60.48c(g))	Recordkeeping of combusted fuel	
GP 003	FS 002 shall not operate over six hours per day (Minn. R. 7007.0800, subp. 2)	Recordkeeping of hours of operation	
GP 004; GP 005		Daily monitoring for any VEs or significant rooftop accumulation	This daily monitoring is a total facility requirement.

3.4 Compliance Assurance Monitoring (CAM)

The Permittee has submitted information as to why the Compliance Assurance Monitoring (CAM) requirements are not applicable. This information is contained in the Attachment 1 memorandum. After review of this memorandum, the MPCA concurs that CAM is not applicable to the Permittee's product recovery filters.

It is also noted that the permit already contains the following requirements pertaining to the product recovery system equipment. First of all, the Permittee is required to maintain an operation and maintenance (O & M) plan for all its product recovery system equipment. Within this O & M plan, the manufacturer recommends that a daily pressure reading be taken for each of the filters. Secondly, there are daily monitoring requirements in the existing permit. For all product recovery system filters, identified as GP 005 and GP 004, there is a daily monitoring requirement for any visible emissions. For any stack vents, of the equipment listed in permit's Appendix C, there is a daily monitoring requirement for the "presence of excess particulate matter emissions beyond what would be expected under normal operating conditions." Thirdly, corrective action is required in the permit, within 24 hours, to eliminate any excess particulate emissions beyond what is expected or visible emissions. Fourthly, recordkeeping requirements are already in place for the daily monitoring and corrective actions taken.

Based on review of EPA websites for fabric filters CAM requirement examples, two such examples were found. In one EPA example, the CAM requirements for a fabric filter basically involved daily visible emission checks. In the second such EPA example, the CAM requirements were for daily pressure drop readings. Hence, the Permittee already has existing requirements that are comparable to what EPA has provided as examples for fulfilling CAM requirements.

3.5 Insignificant Activities

The Permittee has several operations which are classified as insignificant activities. These are listed in Appendix D to the permit. Insignificant activities, within Appendix C classes, are subject to daily monitoring of stack/vent visible emissions and rooftop accumulations. The insignificant activities, that are concurrently listed in both Appendix C and D, are subject to daily monitoring of excess particulate matter emissions and significant rooftop dust accumulation as periodic monitoring.

3.6 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.

3.7 Comments Received

Public Notice Period: 10/6/05-11/4/05
EPA 45-day Review Period: 10/6/05 – 11/19/05

There were no comments received during the public notice period from the publicor from EPA during their 45-day review.

4. Conclusion

Based on the information provided by Malt-O-Meal, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 13100022-004, and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team: Bruce Braaten (permit writer/engineer)

Chris Nelson (modeling)
Jess Richards (enforcement)
Toni Volkmeier (peer reviewer)

Attachments: 1. Compliance Assurance Monitoring Discussion

MEMORANDUM

Prepared for: Bruce Braaten, MPCA
Prepared by: Bob Johnston, Malt-O-Meal
Libbie Henderson, Wenck Associates
Date: February 9, 2005

Re: Applicability of Compliance Assurance Monitoring (CAM) Requirements
Malt-O-Meal, Northfield, Minnesota
AQID 13100022

This memo is written to provide further clarification on Compliance Assurance Monitoring (CAM) issues related to equipment at Malt-O-Meal's facility in Northfield, MN. The Minnesota Pollution Control Agency (MPCA) is currently working a Title V permit re-issuance for the facility. If CAM were to apply, this is the juncture at which it would be incorporated into the permit.

Background

CAM applies on a unit specific basis. It applies to a specific emission unit if the following three criteria are ALL met:

1) The unit is subject to an emission limit or standard; and,

2) The unit uses a control device to achieve compliance; and,

3) The unit has pre-control emissions that exceed or are equivalent to the major source threshold.

The pollutants at issue for CAM in this case are total particulate matter (PM) and particulate matter less than or equal to 10 microns (PM10). The applicable major source threshold under item 3) above is therefore 100 tons per year.

There is further discussion in the CAM rules (40 CFR Part 64) regarding 'control device'. The relevant definitions are included below.

> "*Control device* means equipment, other than inherent process equipment, that is used to destroy or remove air pollutant(s) prior to discharge to the atmosphere."

> "*Inherent process equipment* means equipment that is necessary for the proper or safe functioning of the process, or material recovery equipment that the owner or operator documents is installed and operated primarily for purposes other than compliance with air pollution regulations. Equipment that must be operated at an efficiency higher than that achieved during normal process operations in order to comply with the applicable emission limitation or standard is not inherent process equipment."

The following sheds light on the question of inherent process equipment. It is taken from the part 64 preamble:

> "The EPA suggested in the discussion document accompanying the 1996 part 64 Draft a list of three criteria that would be used to distinguish inherent process equipment from control devices:
> (1) Is the primary purpose of the equipment to control air pollution?
> (2) Where the equipment is recovering product, how do the cost savings from the product recovery compare to the cost of the equipment?
> (3) Would the equipment be installed if no air quality regulations are in place?"

This memo and attachments provide further detail on two items for equipment at Malt-O-Meal:

- Inherent process equipment
- Uncontrolled emission rate

Inherent Process Equipment

Malt-O-Meal operates many types of equipment that include filters, cyclones and scrubbers. They fall into a number of general categories which are discussed in more detail below:

Product Separation Cyclones – 7 units

These units are on the 7 puffing guns at the facility. All product (puffed grain or dough) *must* pass through the cyclone to be separated from the product air stream. These units are clearly inherent process equipment as the process cannot operate without them and they serve as the primary mechanism for removing product from an air stream released from the puffing gun.

They are identified by note 6 in the attached spreadsheet. Because they are clearly inherent, no uncontrolled emission rate is calculated.

Commodity Separation Filters – 3 units

These are filters that function in a similar manner to the product separation cyclones. In other words, all of the conveyed commodity must pass through the filter to be separated from the pneumatic handling air. This applies to three filters that handle various commodities at the facility. They are identified by note 5 in the attached spreadsheet. Again, because they are clearly inherent, no uncontrolled emission rate is calculated.

Fines Control Filters – 20 units total

There are 2 types of filter systems that are used at the facility for product quality reasons. They are identified by notes 2 and 4 on the attached spreadsheet. Each is discussed below.

1. Filters on 17 different SV's (identified on the attached table) are present for product quality reasons. They remove dust at multiple points in the process lines to meet quality specifications. High levels of fines are not acceptable in cereal products. Therefore, these units are necessary to the function of the lines. The filters are not designed based on pollution control requirements, rather they are designed based on the air flows needed to achieve fines pick-up at all the required points in the lines. Collected material is shipped out as feed – a valuable by-product. (Note 2) *– 17 units*

2. Filters on SV 26, EU40, and SV74 are similar to those discussed in #2 above. They are vacuum systems that collect product fines from equipment or building surfaces for plant sanitation and quality control reasons. The same design discussion applies here as in item 2 above. (Note 4) *– 3 units*

Although in both cases we believe that the units all qualify as inherent process equipment, we understand there may be some dispute regarding that determination. Therefore, an uncontrolled emissions calculation is included. In all cases the uncontrolled emission rate is well below 100 tons per year.

Recirculation Air Cyclones and Filters – 7 units total

There are two instances of processes that include a step to remove fines to prevent fires in process equipment. They are described below. They are identified by note 7 in the attached.

1. Filters on SV's 63 and 64 remove fines from a recirculating hot air stream used in the rotary dryer. The recirculation air is returned to a burner box. This means that any fines in that air could ignite and result in a fire. Therefore, the filters are present to prevent fires by removing fines from that air. The filters are therefore part of the process equipment as the recirculation process could not occur without an air cleaning step. - *2 units*

2. Cyclones on puffer/toaster units serve the same function as the filters described in item 1 above. In this case cyclones are used to remove fines to control fire danger. The use of a filter or a cyclone for this purpose relates to fire risk and design differences of different equipment manufacturers. In either case they are inherent to the recirculation aspect of the process. *– 5 units*

Although in both cases we believe that the units all qualify as inherent process equipment, we understand there may be some dispute regarding that determination. Therefore, an uncontrolled emissions calculation is included. In all cases the uncontrolled emission rate is well below 100 tons per year.

Sugar Collection Wet Scrubbers/Filters – 8 units

The primary purpose of these units is to collect sugar and return it to the process. The sugar has been conveyed to a process unit and is separated from the pneumatic handling air stream by a cyclone. (Note that those cyclones are clearly inherent since the cyclone is the direct mechanism for removing sugar from the pneumatic system and the only way for the sugar to be delivered to the process. They are not discussed in any further detail here). The scrubber or filter removes any remaining sugar in the air stream and returns it to the process.

Although we believe that the units all qualify as inherent process equipment, we understand there may be some dispute regarding that determination. Therefore, an uncontrolled emissions calculation is included. In all cases the uncontrolled emission rate is well below 100 tons per year.

Others

The remaining units are:

- Feed Loadout Filter - The filter on SV6 removes dust from loadout of feed into trucks in the feed loadout building. The material collected is shipped out as feed as well. This filter is present to keep dust levels in this enclosed space at acceptable levels. (Note 1) – *1 unit*
- Process Dust Filters – The filters on SV's 21, 28, 62, 66, 67, and 68 remove dust from a fixed piece of process equipment. (Note 3) – *6 units*
- Wet scrubbers on kettles. (Note 14) *– 4 units*.

These units are addressed by demonstrating the uncontrolled emissions are less than 100 tons per year.

<u>Uncontrolled Emission Rates</u>

Uncontrolled emission rates are provided in the attached spreadsheet for all units other than those recognized as clearly inherent in the previous discussion. The calculations are included in the attached and described in the notes. All results show uncontrolled emissions less than 100 tons per year.

In general the following data has been used for the noted units:

- Aspiration Filters– The units apply an AP-42 factor from Chapter 9.9.1 for a Rice Aspiration Filter. That factor is applicable because the purpose of the filter in that product line is similar to that in these cases. Also, rice has proven to be relatively as dusty as other grains in recent testing at Malt-O-Meal. The factor is a controlled emission factor. The AP-42 Rice Aspiration Filter factor is for baghouse emissions. An uncontrolled factor has been derived by dividing that factor by a 99% control efficiency.

- Recirculation Air Filters – SV's 63 and 64 – uncontrolled site specific emission factors for a non-rotary version of the process equipment were used to determine uncontrolled emissions. Although the emission factor is not for the exact piece of equipment (rotary versus non-rotary), we believe the site specific emission factor for a similar process provides a reasonable estimate of uncontrolled emissions and will be better than AP-42 factors.

- Recirculation Air Cyclones – In this case a site specific emission factor is available. It was divided by a conservatively high cyclone control efficiency of 80% to determine an uncontrolled emission rate.

- Sugar Collection Wet Scrubbers/Filters - In this case a site specific emission factor is available. It was divided by a conservatively high wet scrubber control efficiency of 90% to determine an uncontrolled emission rate.

- Feed Loadout – Emission factors from AP-42 Chapter 9.9.1 for truck loading were used. This AP-42 process compares well to Malt-O-Meal's feed loadout process. The factors are for uncontrolled activity. Results are well below 100 tons per year.

- Process Dust Filters – In general, process dust filters (Note 3 units) have applied a site specific uncontrolled emission factor to determine uncontrolled emissions. For SV 28 the unit is the same type as the unit that the factor was derived for and the factor clearly applies. For SV's 21, 62, 66, 67 and 68 the units are rotary versions of similar units. As for the recirculation air filters previously discussed, even though the emission factor is not for the exact piece of equipment (rotary versus non-rotary), we believe the site specific emission factor for a similar process provides a reasonable estimate of uncontrolled emissions and will be better than AP-42 factors.

- Wet Scrubbers - In this case a site specific emission factor is available. It was divided by a conservatively high wet scrubber control efficiency of 90% to determine an uncontrolled emission rate.

All results show uncontrolled emissions less than 100 tons per year. The highest value of 50.25 tons/yr is from the sugar scrubbers. That is due to the high short term sugar processing rate when sugar is being filled in to the system. The process is a batch process and therefore this

short term rate would not occur 8760 hours per year, so this calculation is an over estimate. The next highest is for the puffer/toasters at 39.95 tons per year PM and 29.96 tons per year PM10. All other values are below 5 tons.

Conclusion

The data in this memo and attachment demonstrate that CAM is not applicable to any equipment at Malt-O-Meal. The subject equipment is either clearly inherent, or when arguably inherent, also has emissions less than 100 tons per year. Therefore, CAM does not apply.